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News of the Industry Begins Page 784

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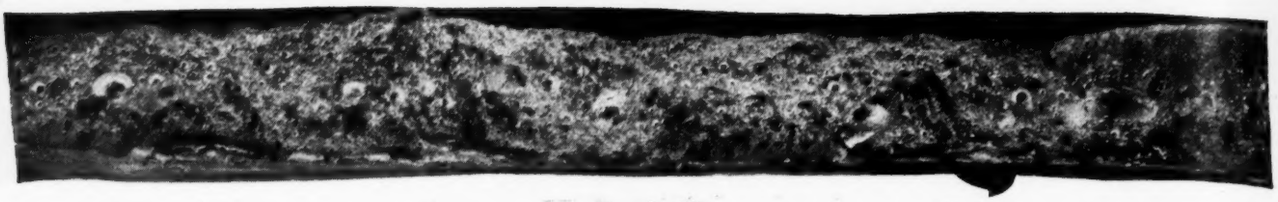
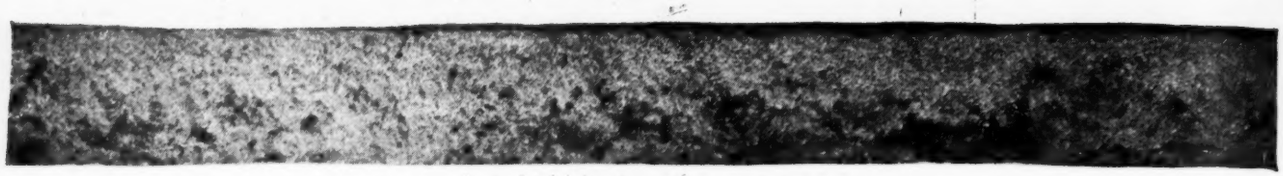
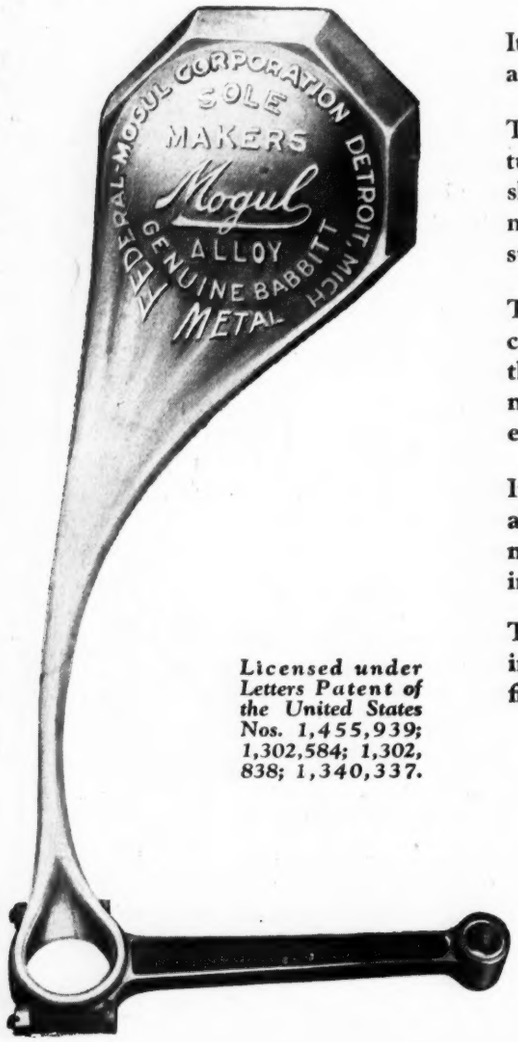


Number 1



Number 2

Which Babbitt Is Going Into Your Connecting Rods?



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It's not all in the analysis. A babbitt may be of proper analysis, but it may be ruined in the alloying process.

The number one illustration is an enlarged view of a fracture of a bearing cast from so-called Genuine Babbitt. It shows faulty structure, full of gas holes, due to improper mixing. Such a babbitt cannot result in the best bearing surface.

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AUTOMOTIVE INDUSTRIES

VOLUME 54 *Philadelphia, Thursday, May 6, 1926* NUMBER 18

New Car Sales Continue Strong *With* Gains Probable for May

Coming of warmer weather accelerates automobile business in many areas. Used car situation better than a month ago but still a source of worry.

By Norman G. Shidle

THE well-known weather gets more prominence in the analyses of April automobile business and in prognostications about the immediate future than any other single factor. The visitations of sun and rain may not have quite as much to do with the ups and downs that have been recorded in the last few weeks as casual commentators credit them with, since the weather always offers a convenient peg on which to hang responsibility for good sales or poor when other definite reasons seem to be wanting.

Weather has had quite a definite effect on automotive retail sales this year, however, and may properly be credited with a major part in determing some of the trends which have become evident in recent weeks in the national automotive market.

Undoubtedly it was largely responsible for the stimulation of new car sales which took place during April in nearly all parts of the country, as well as for the relatively disappointing movement of new vehicles in certain areas in Kentucky, Texas and Utah.

But the weather hardly can be held entirely accountable for the fact that used car stocks are said to be heavy in 65 per cent of the areas reporting in the May 1 survey of automotive retail conditions just completed by *Automotive Industries*.

That weather affects automobile sales of all kinds is not to be doubted, but other factors must be recognized as equally influencial in certain instances.

At the present moment the retail branch of the industry is moving ahead quite satisfactorily, with prospects of further sales gains, at least in the first part of May and perhaps throughout the month. April showed gains in new car sales over March and over April, 1925, in almost every section of the country, with the two or three exceptions already mentioned. Dealers seem to be going into May, moreover, with their new car stocks in pretty good shape. Several widely scattered points, such as Des Moines, Louisville, Detroit and Philadelphia, report that new car stocks are very low, while only in a few places, notably St. Louis, Baltimore and Chicago, do new car stocks seem to be heavier than the retailers might desire. At the last named point, however, rapid inroads on new car stocks are being made at the present time.

> AUTOMOTIVE conditions continue sound and there are indications of better retail business throughout the second quarter than in the first.
>
> Factory production cannot be expected to maintain itself at peak throughout the quarter, but reasonable declines can be viewed as favorable and stabilizing influences rather than as unfavorable factors.

If the used car picture were as bright, generally speaking, as the new car conditions, we might reasonably look for easy and rapid sailing over placid business waters for an indefinite period in the future. But the last of the clouds refuse to move out of the used car sky, however brightly tinted the spectacles one uses to view it.

It is fair to say, nevertheless, that there has been an improvement in the movement of used cars throughout the country in the last thirty days and that dealers are getting rid of their used vehicles at a faster rate than has been attained for some months. Seventy-five per cent of the sections reporting show that used car sales now are moving at least at a fair rate, while sales actually have been brisk in a few areas. In the other quarter of the country "Poor" continues to be the best word briefly descriptive of used car sales.

But even in those places where sales of used vehicles are going ahead at a reasonably satisfactory pace, heavy stocks sometimes still are reported, while unsatisfactory prices continue to take the joy out of selling used cars in a number of cities. No area of any size can be found which is reporting used car stocks as low, although the words "Normal" and "Satisfactory" appear this month more often than they have for some time. But "Heavy" still predominates.

Comparison of the new car sales and stocks, used car

sales and stocks, and factory production figures for the year indicate a close relation between the three factors which probably has more bearing on the used car situation than the weather.

Reasonably accurate production estimates for April are not available at the present moment, but there is every indication that the total for last month will be below those of March and below those of April, 1925. Because of a very reasonable reduction in output by one or two quantity producers during April, some observers believe that the final total for April will be well under 400,000, including both cars and trucks.

Passenger car production for the first quarter this year ran ahead of the first quarter in 1925 by a little over 27 per cent, a pace that cannot reasonably be expected to be maintained throughout the year, unless dealers are to be heavily stocked with cars. There is no indication that overproduction has taken place to date, except insofar as such an indication is given by the apparent difficulty of dealers to make serious inroads on their used car stocks despite the rather good acceleration in sales of both new and used vehicles which has taken place in the last thirty days.

A normal seasonable decline in factory production is to be expected soon under any circumstances and it would not be surprising to see that seasonable trend slightly more emphatic this year than usual because of the pressure of used car stocks. If April passenger car output turns out to be around 380,000, the first four months' production this year still would be ahead of the first four months of 1925 by about 17 per cent and about 4 per cent ahead of the similar period in 1924.

Another factor which may operate against the setting of new production records this year, but strongly in favor of greater stability throughout the industry, is the growing tendency toward sounder and more conservative terms on instalment selling. This trend in connection with new car paper should gradually begin to have a favorable affect in the used car market, as the liberality in new car terms undoubtedly has been one factor adversely affecting the movement of used vehicles.

Too Much Risk Involved

Excess liberality in used car financing doesn't seem very likely in view of the excessive risks involved for finance companies in any such procedure. A recent statement about used car financing and trade-in values made by Hare & Chase, Inc., is interesting in this regard. "One clear indication of an excess of unused transportation," the statement reads, "is found in recent finance company experience with used car paper.

"In former years it was felt that the appraisal figures of the Red Book, published quarterly by the Chicago Automobile Trade Association, were conservative. It was customary prior to 1926 to regard as safe an equity slightly in excess of the Red Book valuation. Today it is virtually impossible to liquidate without loss an equity at or below the Red Book scale and although used cars do not ordinarily constitute more than 20 per cent of a finance company's volume they account for as much as 80 per cent of the losses annually charged to its reserves.

"It has been necessary, in the last few months, for conservatively managed finance companies to restrict their used car equities and in some cases to raise their used car rates as protection against this increasing hazard."

Generally speaking, automotive conditions continue sound and there are indications of better retail business throughout the second quarter than in the first. Factory production cannot be expected to maintain itself at peak throughout the quarter, but reasonable declines can be viewed as favorable and stabilizing influences rather than as unfavorable factors.

These general conclusions are borne out to a large extent by the specific reports from various sections of the country which follow:

BOSTON

SALES in Boston have taken an upward curve and April showed much better conditions, particularly because of the backward season in the first quarter. There was a rush early in the month with the deliveries of those who held back to save taxes, and as the weeks went by they improved.

Distributors report that their outside dealers now are getting out of the rut caused by being buried under a blanket of snow.

The used car situation is better. Dealers have been putting in some intensive work in April to get rid of their stocks, for they realize that with new deliveries increasing the used cars would begin to pyramid.

PITTSBURGH

SALES of automobiles in the Pittsburgh and Western Pennsylvania districts during the month of April showed a material improvement over March, but did not show much of a gain over April of 1925.

While an increase in sales during April might well be expected over March due to seasonal changes, yet the fact that April of this year failed to gain much over the same month last year is considered to be merely a reflection of the different weather conditions that prevailed during the same months of different years. Another factor is the difficulty of a maker of low-priced cars to secure a corresponding volume of business.

In the low-priced field there seems to have been a good run of business in the various models, except the one referred to above.

The used car situation is not much changed. Dealers have not been so heavily overstocked and the absence of strenuous campaigns to sell the used cars is held as an indication of the dealers' position.

DES MOINES

NEW car business is satisfactory. Dealers in small centers are reporting good sales. April showed a good increase over March. Distributors suggest that the better business is not the result of better trade conditions but is the clearing up of sales which have been postponed because of late spring.

New car stocks are low but dealers are heavily stocked with used vehicles. Complaint is made that the business obtained is too costly. Net profit on new car sales is extremely small.

MILWAUKEE

PASSENGER car dealers in general regard the outlook for May and June business as encouraging. The breaks in the weather have been against them practically until the end of April, when the first real warm day of the entire spring arrived.

March new car sales, as indicated by state registrations, were 7161 compared with 6676 in March, 1925.

In April, 1925, sales were 10,749 and indications are that this year's April registrations will well exceed 11,500.

It would appear that the business scare which acted as a curb on all retail trade in February and March and into April is passing. Sentiment among business men in all lines was much more optimistic at the end of April than when March closed.

In the rural districts there has been a disturbing factor of considerable consequence. Chicago decreed that after April 1 no milk could be shipped into that city except from tuberculin-tested cows. Shortly afterward, Milwaukee issued the same rule. This resulted in a rush to test cattle, especially in southern Wisconsin. About 21,000 cows were condemned. The state pays an arbitrary compensation, usually not nearly the actual market value of an ordinary cow, and far below the value of purebred cattle. The situation became such that the state appropriation became exhausted and a special session of the legislature was held April 15 to appropriate $450,000 additional. Many prosperous farmers have been hard hit and they are not inclined to automobiles.

Concerning the immediate outlook, one large dealer-distributor states that if the manufacturers will keep their ears to the ground and gage production strictly with retail absorption, there is nothing to fear. Over-production, however slight, is bound to be demoralizing.

Dealers' new car stocks generally are higher than a year ago but not considered uncomfortable.

The used car situation is not entirely satisfactory. Better weather has resulted in a much freer movement into second and third hands, yet the supply has been growing faster than the demand. Stocks are heavy, almost without exception, and the prospect is for still heavier supplies, with not much prospect for a correspondingly broad outlet.

BALTIMORE

ALTHOUGH April offered no more than two or three spring-like days, the dealers in Baltimore and surrounding territory continued to increase their sales over the corresponding month of last year.

Some dealers are somewhat disappointed with the results attained during April. Although they showed an increase over last year they had looked for the improvement to be greater. They are inclined to blame the backward spring for their disappointment. The outlook is bright, however, and good business is expected from now on.

It is reported that some stocks of new cars are a little heavy but this condition is not causing any great amount of worry. The stocks of used cars are about normal.

NEW ORLEANS

A SUBSTANTIAL increase in business was recorded in April over last month and over the same period of last year.

The used car market here is in good condition due to conservative allowance by dealers in taking them in on new cars.

ATLANTA

A MAJORITY of the Atlanta dealers and distributors report in a decidedly optimistic vein.

Sales in Atlanta and other of the large cities of the Southeast seem to have been unusually heavy during April for dealers in the lower priced and medium priced cars, and were also very good in the country districts, but less active in the medium sized cities. As regards business in the country districts, most of the distributors seem to agree that 1926 business, judging from the volume to date and the attitude of the dealers, will be considerably better than last year in spite of the fact that 1925 was a comparatively good year. As regards what the expected increases may be, reports vary from 10 to as high as 25 per cent, and probably 15 per cent would strike the average.

Used car business is also fairly active throughout the territory, but as nearly all of the new car sales represent trade-ins, the stock of used cars in hand is unusually large with most dealers and distributors.

New car stocks would appear to be about normal in the hands of most of the dealers in this section, save dealers in the medium sized cities where stocks seem to be a little larger than normal.

Motor bus sales are reported to be very active throughout the district, considerably better so far this year than during the corresponding period of 1925. Truck business is fair, probably a little better than 1925, but scarcely of record proportions.

DETROIT

RETAIL deliveries of new cars in Detroit in April ran far ahead of deliveries in the same month last year, and in most lines of cars will show important gains over March. Business has been well sustained throughout the month but has shown a tendency toward reduction in the latter part, lower priced lines being especially affected by this falling-off.

Business in May is expected to continue on much the April basis though lower priced lines may suffer sharply reduced sales. This is due to a gradual slackening of work in a number of plants, resulting in increasing unemployment and in increased numbers of workers on part time. Many workers now meeting payments on cars are affected and extension of time on payments is being asked in an increasing number of instances.

Movement of used cars has not been satisfactory and much of the dealer profit on new car sales is represented in used car stocks. Good weather is expected to bring used car buyers into the market. Prices on used cars are maintaining their usual levels despite slow movement and there is no evidence of unloading at sacrifices.

Used car stocks are resulting in a minimum of new car stocks.

DALLAS

EFFECTS of excessive rains and continued cold weather were reflected in practically all automotive lines in Texas at the close of the fourth month of the year. Agricultural conditions were uncertain, especially for cotton, the big money crop, and all lines of business were dull. Warmer weather, expected from now on, will soon put the automotive trade back to normal, jobbers and dealers in all lines said.

Actual retail sales of new cars were about 70 per cent of that for the preceding month and 10 per cent less than a year ago for medium and high priced cars. Low priced car sales were about ninety per cent as great as those for March and about the same as those of a year ago. Majority deals involved trades and monthly payments, in many instances the payments being extended over eighteen months. Little business in the rural districts. Retail dealers carry-

ing fair stocks, but not overstocked except in a few instances. Some distributor stocks heavier than usual at this time of year. Distributors and dealers expect volume of trade this year to exceed that of 1925.

Retail sales of used cars are about 90 per cent of that in preceding month. The prices have been cut as low as possible without entailing heavy losses. Retailers have pretty good stocks, but no heavier than a year ago at this time. Warm weather will boost this line of the trade.

BIRMINGHAM

AUTOMOBILE sales in this section are going along very well. Business is better than it was at this time in 1925 and the month of April showed a considerable gain over the same month last year. In this city sales have reached the expectations of the dealers and some report that their expectations have been exceeded.

The new and used car stocks are about normal, most dealers report. Several report a slight superfluity of used cars which they expect to dispose of during the month of May.

Used car sales have been exceptionally good throughout the month of April. The dealers attribute the increase in sales to the fact that all reputable dealers are now taking pains to recondition cars properly before offering them on the market for sale.

LOUISVILLE

WHILE April sales of passenger cars slightly exceeded the same period of 1925, April business as a whole was disappointing and did not equal expectations. This situation is attributed wholly to adverse spring weather, but with the advent of good weather sales are expected to boom and many deferred deliveries will be made. This prophecy is based on the fact that the Louisville territory is experiencing general prosperity.

Truck, tire and accessory business is fair, with dealers in these lines expecting an increase in demand shortly.

ST. LOUIS

SOME improvement has been noted in retail sales during the past two weeks and a final tabulation of April results is expected to show a gain over April of 1925. The unfavorable weather which has so retarded sales has given way to spring and increased sales are anticipated for May.

Stocks of new cars in dealers' hands are somewhat large, but not unusual for this time of the year. Used cars are plentiful.

MINNEAPOLIS

AS spring advances, the automobile business continues active in the Ninth Federal Reserve District, Dealers are taking all the cars they can get and are not to any extent collecting a stock. Wholesale houses are reporting heavy increases in orders and deliveries over a year ago, ranging from 25 per cent up. One branch had done more business up to April 22 than any previous month of the year.

The decline in the money value of business in the district was 6 per cent, but the decline is entirely in the three large cities.

Closed automobiles rule in demand and in the case of used cars only the best are selling well.

Purchasing power created during March by the marketings of grain and livestock combined was 8 per cent more in the district than for the same month last year.

LOS ANGELES

MODERATE decrease in April new car sales in southern California compared with March and about even with April last year.

Severest rainstorm to visit this territory in years, reaching flood proportions in many sections, held automobile selling at virtual standstill during first week of month and responsible in large measure for lower total sales volume than expected.

With some exceptions, new car stocks on hand are normal. Used car stocks substantially reduced during month with excellent demand.

CHICAGO

WITH the arrival of fine weather the latter part of April business in both new and used cars increased rapidly. Business during the first two weeks was slightly below normal, but the month as a whole is considered as entirely normal.

Stocks of new cars, built up to a fair degree during late March and early April, are beginning to decrease. Used cars are moving well with the opening of the spring season. There has been no great stock of used cars on hand since February. Time payments are good and repossessions low. Parts and accessories show increases over March, 1926 and April, 1925.

SALT LAKE CITY

RETAIL automobile business generally is not as good as expected. It was felt that the great improvement in the industrial situation was going to accomplish more for the industry

On the whole, dealer stocks of new cars are normal though in not a few cases they are lighter than during the same period last year. In used cars, excepting in ease of a few who have paid special attention to the problem, dealers are carrying heavier stocks than they carried a year ago—much heavier in some cases.

NEW YORK

SEVERAL car distributors in the Metropolitan District report April business at a record monthly figure. During the past two weeks, despite continuance of cool weather, 7843 new cars were sold. This was 37 per cent above the first two weeks of April, 1925, and 63 per cent of total sales during April last year, and practically the same percentage of total sales in March this year. When the total sales figure for this April is available it is expected to show a gain of at least 35 per cent over April last year and a corresponding increase over March this year.

From January 1 to April 14, 30,270 new cars were sold in the Metropolitan District, compared with 21,162 in the corresponding period last year, an increase of 43 per cent.

(Continued on page 793)

Special Six-Wheel Chassis is Designed for Moving Vans

New job developed by Red Ball Corp. is built along bus lines and can be used for passenger transportation.

A SIX-WHEEL truck chassis, designed particularly for van use by the Red Ball Transit Company, a national moving organization, but also suitable for passenger transportation, has been developed by Red Ball Motor Truck Corp. of Indianapolis.

The rated capacity of the new chassis is 3½ tons. Wheelbase is 220 in. It is powered by a Wisconsin six-cylinder engine with 4 in. bore and 5 in. stroke, four bearing crankshaft, valves in head, 377 cu. in. piston displacement and S. A. E. rating of 46½ hp. at 1000 r. p. m. and 78 hp. at 2200 r. p. m.

The ignition is Bosch magneto with impulse starter. Stromberg carburetor, centrifugal pump cooling system with 20 in. diameter fan, honeycomb-type radiator of 10 gal. capacity, and Borg & Beck dry disk clutch having 2-12 in. plates are used.

The transmission is heavy duty and has four speeds forward and one reverse. Low speed ratio is 5.2 to 1. The propeller shaft consists of two 2¾ in. tubular pieces fitted with three universal joints and a heavy carrier bearing at the center. The two rear axles are identical except that all working parts have been removed from the rear one so that it serves as a load carrier only—the front one of the pair being used exclusively for driving.

Brakes on Four Rear Wheels

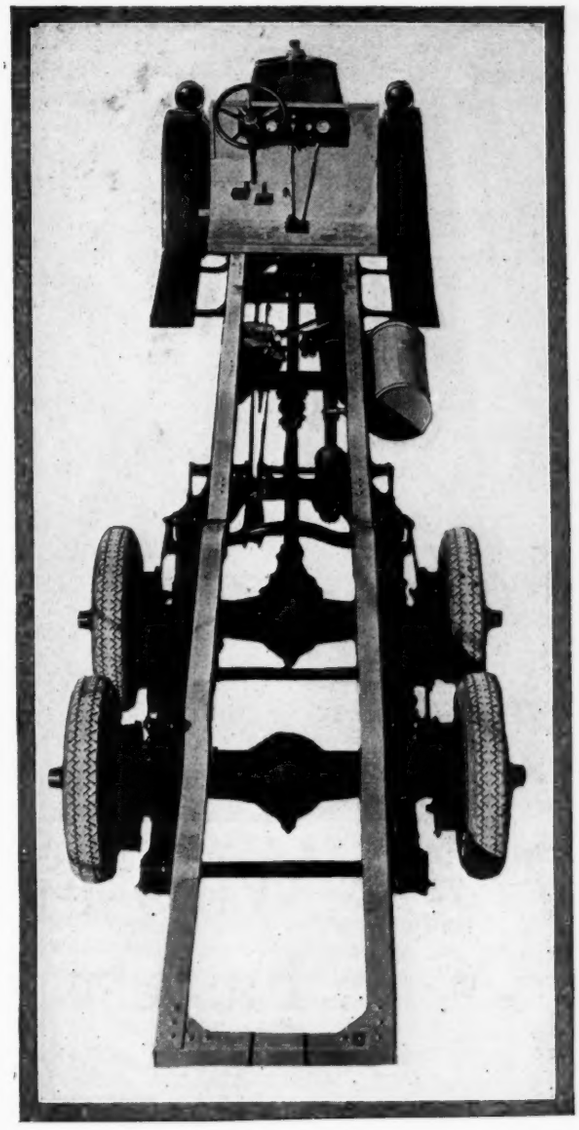
Service brakes operate on a drum 4 in. wide and 18 in. diameter on all four rear wheels and the service brake pedal control operates through a booster brake. Over 100 sq. in. of braking surface is provided by the service brakes which, like the emergency brakes, are of the internal type. The emergency brakes operate on a 2½ in. drum 12 in. in diameter on all four wheels.

As shown in the accompanying illustration, there are three springs on each side at the rear besides the one at the front, so that there are eight springs altogether. They are all of the semi-elliptic type. The rear top springs are 3 in. by 6¾ in. by 62 in. The rear lowers are 3 in. by 4¾ in. by 48¼ in. and the front ones are 3 in. by 5 in. by 42 in. Westinghouse air springs are mounted on the front to relieve the engine and front of the chassis from road shocks.

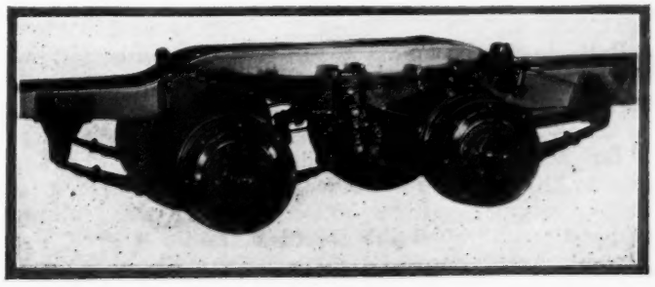
Disk wheels are standard, mounting 32 by 6 in. or 34 by 7 in. pneumatics at the front and 36 by 6 in. solid tires at the rear. Pneumatic tires all around are optional. Steering is accomplished through a Ross cam and lever system and a 20 in. diameter wheel. A vacuum system provides fuel from a 20 gal. tank mounted on the side of the frame.

The frame is made of ¼ in. channel stock and has an overall length of 332 in. The frame depth at the front is 4 in. which tapers to a maximum of 8 in. directly in front of the kick-up over the rear axles, 6 in. over the kick-up, and 4 in. on the rear flanges. The hood and fenders are of a heavy steel construction—the latter being 12 in. wide and secured to a large channel iron bumper. Alemite lubrication is used throughout.

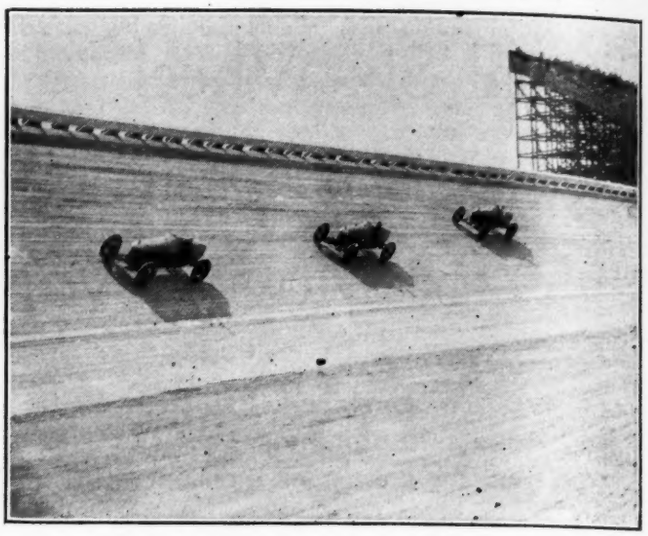
Standard equipment includes oil pressure gage, speedometer, generator and starter with Bendix drive, electric headlights and tail light, ammeter and heavy 17 plate Willard battery.



General view of new Red Ball six-wheel chassis



Detail of rear wheels showing unique spring suspension



Above: Taking a turn at 135 miles an hour. Bennett Hill in the lead, Hartz second and DePaolo third. The track at this point is banked at an angle of nearly 45 degrees along the outer rim

Left: Harry Hartz in his Miller Special after finishing 300 miles at an average speed of 135.2 miles per hour at the new Atlantic City Motor Speedway, largest and fastest board track in the world

Hartz Wins First Race on World's Fastest Board Track

Establishes record of 135.2 miles an hour for 300 miles at opening of new mile-and-a-half Atlantic City Speedway. DePaolo in second place.

By Robert L. Cusick

TRACK construction as a factor in high racing speeds received new emphasis in the 300-mile inaugural contest over the recently-completed Atlantic City Motor Speedway near Hammonton, N. J., last Saturday. Clinging to the superbly banked sides and turns of this mile-and-a-half board course—the largest of its kind yet built—Harry Hartz piloted a Miller Special to a new world's record for the distance, traveling the 300 miles in 2 hr. 14 min. and 14.18 sec., at an average speed of 135.2 miles an hour. The previous record for this distance was held by Pete DePaolo with an average speed of 129.295 miles an hour, made at Miami, Fla., last February.

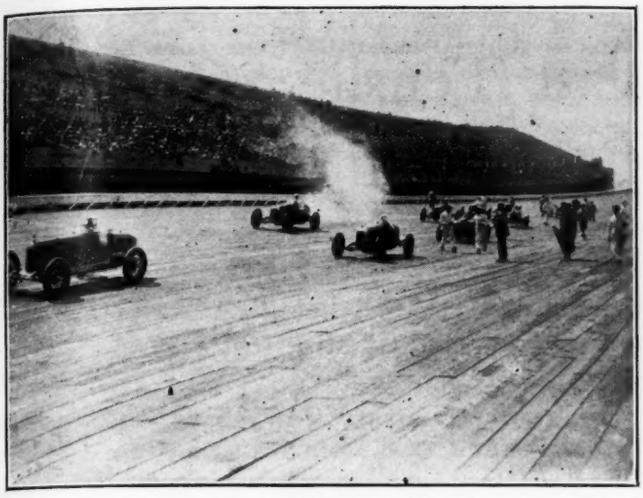
DePaolo also broke his Miami record when he followed Hartz across the tape on the Atlantic City track for second place after completing the 300 miles in 2 hr. 15 min. and 38.59 sec., in a Duesenberg. Third place went to Bob McDonogh, who pushed his Miller Special around in 2 hr. 16 min. and 30.45 sec. Pete Kreis finished less than a minute behind McDonogh and was followed across the line by Ralph Hepburn, Eddie Hearne, Fred Comer, Dave Evans and Dr. W. E. Shattuck, in the order named. The last three took down place money but did not complete the 300 miles.

Hartz drew the winner's prize of $12,000 posted by the track officials. Second place paid $6000, third $3000, fourth $2100, fifth $1600, and on down to $800 for ninth place. Sixteen cars faced the starter—12 Millers, 3 Dusenbergs and one Bugatti. The latter, powered with a 122 cu. in. engine, failed to make any kind of a showing and pulled off the track at the end of 18 miles.

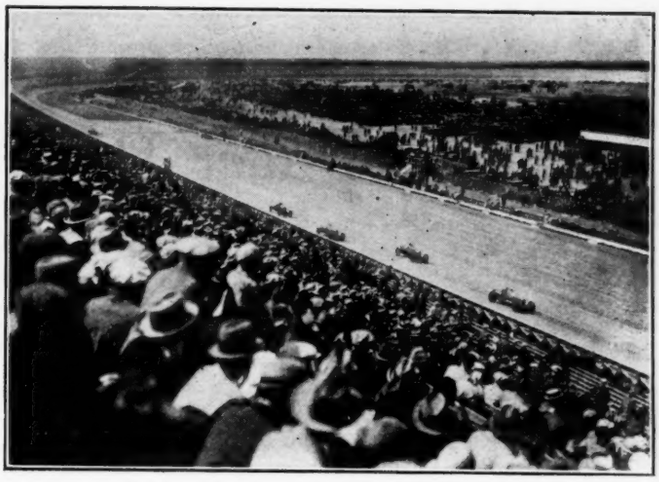
The course over which this race was run is a masterpiece of board track construction with slightly banked straightaways 1750 feet long, and widesweeping turns on which the banks are laid at an angle of 45 degrees at the outer rim. The track was built under the supervision of Jack Prince and was designed for safe driving at speeds of 140 to 160 m.p.h. On the day before the race Bennett Hill whizzed around in his Miller Special at 146.7 m.p.h. on a test run.

The safety features of the track were demonstrated by the absence of accidents during the race, despite the terrific pace. The closest approach to mishap occurred when Eddie Hearne blew two tires simultaneously and went into a skid coming into the straightaway facing the stands. His car swirled several times but was brought under control and coasted into the pit.

Two by four in. timbers are used in the floor construc-



The start, DePaolo leading



A view from the grandstand

tion and laid with the two in. surface up. On the turns the timbers are stressed inward to curve with the track. The timbers are mostly rough-finished and this caused the track Saturday to become littered with splinters which played havoc with tires.

Inside of the board track, which is 50 feet wide, is a 50-foot dirt apron. To preclude the possibility of any one's getting from the grandstand to the track during the course of a race, the two are separated by a gulf about 20 feet wide. The plant was constructed by the Atlantic City Speedway Association, of which Charles M. Schwab, of the Bethlehem Steel Corp. and the Stutz Motor Car Co., is a director. Mr. Schwab paced the first lap of the inaugural race with a Stutz car, in which F. E. Moskovics, president of Stutz, was a passenger.

Mechanical Failures

Valves and connecting rods were the chief sources of failure, four of the cars which were taken out of the race falling down because of defects in these parts. Frank Elliott and Zeke Meyer were both stopped by broken connecting rods and valve trouble caused Earl DeVore and Dave Evans to withdraw. Before being counted out at the 250-mile point DeVore, driving the $20,000 Miller Special which was built originally for Cliff Durant, was one of the sensations of the contest. He drove at amazing speed and created a new record for 150 miles.

It was consistent car performance and consistent driving that won for Hartz. He never faltered from the moment he was signaled to go until he got the checkered flag at the end of the 200th lap. He was not in the pit during the entire 300 miles. Others frequently passed him but he maintained his steady gait lap after lap and his speed scarcely varied five miles per hour during the afternoon.

The same consistency of driving was a feature of DePaolo's race but the young Italian's car developed fuel line trouble in the final three minutes of the grind and this cost him first place. Up to that time he was leading Hartz and would have won by a comfortable margin if he had not had to slow down. After taking one and one half laps at half-speed his engine again picked up but the time was too short to overtake Hartz, who had passed him. DePaolo also made a non-stop run.

McDonogh might have finished the contest ahead of either Hartz or DePaolo had he not been the victim of several mishaps during the afternoon. One of these was of a very peculiar nature. An air pilot flying over the field during the race scattered a batch of advertising circulars over the grandstand and track and one of them flattened out against McDonogh's radiator, cutting off the air from his engine. His engine heated up to such a point that he had to stop. Shortly after this incident he blew a tire and was forced into his pit again. Then toward the end of the race his engine began spouting oil. His clothes literally drenched and his vision impaired by a heavy film on his goggles, he was forced to travel the final laps at reduced speed.

McDonogh ended the day with two new records to his credit, one for 75 miles in 32 min. 34 sec., and the other for 200 miles in 1 hr. 29 min. and 19 sec.

As the race neared the 200-mile mark it settled into a grim contest of speed between DePaolo, Hartz, McDonogh, Kreis, Hearne, Hepburn, and DeVore. The latter was setting a pace that has perhaps never been equalled in the history of circular track racing. It seemed to the spectators that something must inevitably crack under the intense strain and it was DeVore's machine that weakened. After that it became a toss-up between Hartz, DePaolo and McDonogh with DePaolo slowly pulling away from his rivals until he had established a margin which made him look a sure winner. His car had been running beautifully from the start but on the 194th lap the crowd saw him slacken speed and drop down to the bottom of the track. He continued past the pits and around the track, however, and gradually began to pick up again, but Hartz had flashed by him to take the lead and a minute later the checkered flag came down on Hartz to declare him the winner.

The race was conducted under A.A.A. rules and sanction. It is planned to hold three contests a year on the new track. The next event is scheduled for July 17 and is expected to be for the same distance and under the same conditions. All of the cars in the inaugural race, were of 122 cu. in. piston displacement and all were supercharged.

NEW EUROPEAN RECORD SET

A SPECIAL cable to *Automotive Industries* announces that the English driver, Parry Thomas, driving a car of his own design powered with a Liberty airplane motor, has established a new European record of 171.09 miles an hour for the distance of one kilometer. His speed for the entire mile was 170.62 m.p.h. In each case the speed given is the average for the distance in both directions.

Nickel Metals Lose Least Tensile Strength Under High Temperatures

New fatigue tests at University of Illinois are made under various special conditions. Investigation is extended into non-ferrous field. Cold drawing increases static strength.

THE fatigue strength of steel and other metals under various special conditions is dealt with in a bulletin issued recently by the Engineering Experiment Station of the University of Illinois, Urbana. This is Bulletin No. 152 of the Engineering Experiment Station and bears the general title "An Investigation of the Fatigue of Metals, Series of 1925," the authors being H. F. Moore and T. M. Jasper.

A number of specific researches are dealt with, as follows: Fatigue Strength and Static Strength of Steel at Elevated Temperatures; The Effect on Fatigue Strength of Stress Intensification at a Small Hole; Magnetic Analysis as a Test for Fatigue Strength of Steel; Fatigue Strength of Non-Ferrous Metals; Fatigue Strength of Case-carburized Steel; Testing Machines for Repeated Stress; Miscellaneous Test Results for Metals.

Research Started in 1919

Research work on the fatigue of metals was started at the Engineering Experiment Station of the University of Illinois in 1919, and bulletins giving the results have been issued at intervals. The work is being supported by the National Research Council, the Engineering Foundation, the Allis-Chalmers Mfg. Co., the Copper and Brass Research Association, the General Electric Co. and the Western Electric Co. It is being carried on with the aid of the National Research Council advisory committee on the fatigue of metals.

In Bulletin No. 152 the equipment for the different researches, the test specimens and the methods of tests are described in detail and with the aid of numerous illustrations. Following are the conclusions drawn from the different lines of research covered in the bulletin:

At elevated temperatures a marked difference was found between the ultimate tensile strength of various metals as determined by ordinary static tension tests and as determined by prolonged and retarded tension tests (12 to 72 hours per specimen). This difference became noticeable at temperatures varying from 400 to 800 deg. Fahr. As temperatures increased beyond these limits the ratio of ultimate tensile strength as determined by ordinary tests to ultimate tensile strength as determined by prolonged and retarded tests also increased.

Of the metals tested those having a high nickel content (pure nickel, monel, and cyclops) showed the least falling off of ultimate tensile strength and proportional elastic limit as temperatures were increased. This was true both for ordinary tests and for prolonged and retarded tests.

Fatigue tests of specimens subjected to reversed flexure at elevated temperatures having been carried out on a number of different steels. All these fatigue tests were run at a speed of 1500 cycles of stress per minute. For two of the steels tested (0.49 carbon steel, normalized, and S. A. E. Steel 2340, Treatment C) the endurance limits increased slightly from ordinary temperatures up to 900 deg. Fahr. respectively; for the other steels tested the endurance limit decreased slightly from ordinary temperatures of about 800 deg. Fahr. For all steels tested the endurance limit fell off rapidly for temperatures above 900 deg. Fahr.

Above some particular temperature for each steel tested the endurance limit approached in value ultimate tensile strength given by prolonged and retarded tests. This suggests that the results of a fatigue test at 1500 cycles of stress per minute, which was the speed used in this investigation, and which involves very rapid loading and unloading of a specimen, should be compared with the results of an ordinary static test rather than with those of a prolonged and retarded test. Different values of endurance limit at elevated temperatures might be found for tests run at slower speed.

The results of the tests on specimens with holes and with fillets of small radius show that the effect of holes and fillets in intensifying stress is not so serious as the mathematical theory of elasticity would indicate. The test results show that small holes reduce the strength of a specimen to resist reversed flexural stress to values varying from 57 to 82 per cent of that of the specimen without a hole, the average being 74 per cent; the mathematical theory of elasticity indicates a reduction to a value of 33 per cent.

Non-Ferrous Metal Tests

The tests on specimens from turbine disks show that the type of magnetic survey used furnishes an indication as to homogeneity or as to internal stress conditions in steel, but does not clearly distinguish good steel from poor steel from the viewpoint of this investigation.

Examination of S-N diagrams drawn for 31 series of fatigue tests on 21 different non-ferrous metals shows the following:

(a) In five cases, relating to monel metal and duralumin, no evidence is found of the existence of an endurance limit, although tests were run to several hundred million cycles of stress.

(b) In nine cases endurance limits are seen almost as distinctly marked as are those of wrought ferrous metals; in these tests the metals were aluminum, naval brass, aluminum bronze, and several magnesium alloys.

(c) In the remaining fifteen cases the metals show fatigue properties intermediate between those of the other two groups; each metal appears to have an endurance limit which lies within a range of stress that is not so clearly marked as it is in the case of wrought ferrous metals.

As a basis for determining a safe working stress for a non-ferrous metal under repeated stress, it is suggested that, for metals showing no well-defined endurance limit, the stress which will cause failure be taken as that stress for which a logarithmic S-N diagram, or a tangent containing the S-N diagram beyond the range of test data, intercepts the coordinate which represents the estimated "life" of the structure or machine in which the metal is incorporated.

Cold drawing is, in general, very effective in increasing the static elastic strength and the static ultimate strength of non-ferrous metals. Available test results indicate that cold drawing is much less effective in raising the fatigue strength of the non-ferrous metals tested. The proportionate improvement of fatigue strength caused by cold drawing is much less for non-ferrous metals than is the case for steel.

Endurance Limit Lower

From available results of fatigue tests of non-ferrous metals it appears that the ratio of endurance limit to ultimate tensile strength is distinctly lower for non-ferrous metals than for wrought ferrous metals. (For wrought ferrous metals the ratio ranges from 45 to 55 per cent.) Furthermore, for different non-ferrous metals, and for different treatments of the same non-ferrous metal, this ratio varies widely.

Available test results indicate that for non-ferrous metals fatigue strength cannot be determined reliably by short-time tests in which the rise of temperature of the specimen is measured after about a thousand cycles of stress.

Test results indicate that case carburizing accompanied by suitable heat treatment is a promising means of increasing the fatigue strength of low-carbon steel under cycles of flexural stress. Increases of endurance limit as high as 162 per cent were noted in the fatigue tests made. Case-carburizing without suitable heat treatment may not be effective in increasing fatigue strength of low-carbon steel under cycles of torsional stress; it is much less effective in increasing strength under axial stress (tension or compression).

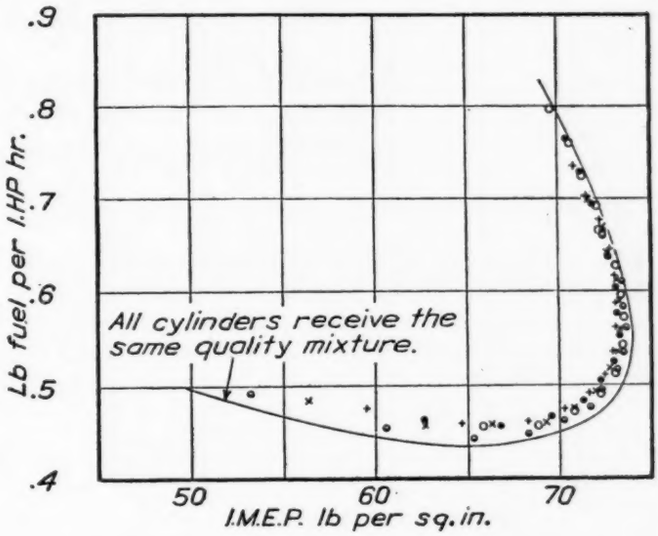
The experience of the authors in connection with fatigue test of metals indicates that a fatigue test under cycles of reversed flexure, made preferably on a rotating-beam testing machine, is a useful and reliable test. The authors have found that type of the rotating-beam machine which uses a simple beam with two symmetrical loads (the "Sondericker" or "Farmer" type), to be the most satisfactory.

Engine Output and Consumption

IT is generally known to automotive engineers that by enriching the fuel mixture supplied to an engine beyond the theoretical proportion of air to fuel, the power output can be increased, but at the same time the fuel economy drops off. That a great deal of fuel can be wasted by incorrect adjustment of the mixture has been often pointed out, but the relation between specific output and specific fuel consumption as affected by changes in mixture ratio has seldom been presented in such a striking way as in a chart constructed by Stanwood W. Sparraw of the Bureau of Standards and included among many others in a report to the National Advisory Committee for Aeronautics.

The object of the chart was to show the effects of unequal distribution to the cylinders of a six cylinder engine, and the various points inside the curve all correspond to a particular condition of distribution. The curve itself, on the other hand, is based on the condition of equal distribution to all of the cylinders.

Starting with a very lean mixture we get the result represented by the left hand end of the curve; that is, a fuel consumption of about 0.5 lb. per indicated horsepower-



Variations of thermal efficiency with mixture strength

hour and an indicated mean effective pressure of 50 lb. p. sq. in. By enriching the mixture the indicated mean effective pressure is increased while the specific fuel consumption is decreased, showing that the leanest mixture is not the most economical one.

The most economical mixture is represented by the lowest point of the curve, which shows a specific fuel consumption of 0.43 lb. per indicated horsepower-hour with an indicated mean effective pressure of 65 lb. p. sq. in. This, of course, is a very low mean effective pressure, which is due to the fact that the data on which the curve is based was obtained from tests on aircraft engines in the altitude chamber of the Bureau of Standards at reduced inlet pressures.

By further increasing the richness of the mixture the i.m.e.p. is increased and attains a maximum value of 73.5 lb. p. sq. in. with a fuel consumption of 0.55 lb. p. hp.-h. Mr. Sparrow has pointed out that by decreasing the maximum output of the engine by only 5 per cent the condition of maximum fuel economy is nearly reached.

What an enormous waste of fuel may be caused by the use of an overrich mixture is also clearly shown by the curve. The same i.m.e.p. of 70 lb. p. sq. in. may be obtained with a specific fuel consumption of either 0.45 lb. or 0.80 lb. p.i.m.e.p., the latter an increase of 80 per cent over the former.

WITH a view to promoting the production of charcoal for use in portable suction gas plants on motor trucks, the French Government is organizing a competition for portable charcoal plants. There will be two divisions, one for simple charcoal ovens and the other for by-products recovery plants. The competition will be held during the early part of June in the neighborhood of Bordeaux. At the conclusion of the competition the ovens will be removed to and exhibited at the Bordeaux Fair. At the same time there will be a competition for motor trucks operated by suction gas generators. This will comprise a road test in the district around Bordeaux.

What Buyers Want on Their Cars in Foreign Countries

Survey shows preference in various foreign districts in regard to accessories, body colors, car capacity, wheels, road clearance, etc. Data gathered in 47 export markets.

STANDARD equipment of automobiles has become an important factor in sales in this country and prospective car buyers of other countries are following our lead in demanding that certain items be supplied with the car. The American public has become so accustomed to the use of winshield wipers, heat indicators, spare tires and similar items that a car not so equipped by the manufacturer or dealer often encounters more sales resistance than would otherwise be the case. The car owner demands these items on his car and probably figures that a car fully equipped is a better bargain than one for which he must provide the accessories himself.

That this attitude is quickly spreading through other countries is evidenced by a survey made a short time ago by the Automotive Division, Department of Commerce, as to what type of equipment and accessories were most popular in the various foreign markets. This survey included 47 countries and in nearly every one the Department's correspondent indicated a growing demand upon the part of the citizens for more completely equipped cars and also a more decided opinion of just what other elements go to make up a car which will be most satisfactory in that market.

In the accompanying table the results of this survey are given in a quickly available form. Besides information regarding desirable accessories, data were collected concerning the various national preferences in wheels and tires, color and trim, capacity and model, type of gasoline gages and speedometers desired, ignition system and road clearance.

It must be remembered that the information given is not all-inclusive and should not be taken as absolutely definite. For example, in Arabia a preference is expressed for disk wheels. This by no means indicates that wire and artillery wheels can not be or have not been sold in Arabia. It does indicate, however, that, in the opinion of the Department of Commerce representative, a car equipped with disk wheels will be more desirable to Arabians than a similar car equipped with any other type of wheel.

Although some information was collected regarding truck preferences the present tabulation is confined largely to passenger cars. In general, solid tires and magneto ignition are preferred in most foreign countries for trucks, although high pressure pneumatics are acceptable in many regions. Probably much the same considerations of weights carried, types of load, road conditions and cost as influence tire equipment in this country are active in other lands.

Of particular interest is the information concerning the type of gasoline gages and speedometers desired. Both are minor items of equipment, perhaps, but their possibilities for destroying good-will for American built cars through improper instruments are great. Imagine the feeling of a car owner who is provided with a speedometer registering miles per hour when he only knows speed in terms of kilometers, or in his trying to discover what five U. S. gallons means in terms of liters or British gallons. Good-will is built up at the cost of too much time and expense to be destroyed by such mistakes.

Information regarding preferred road clearances is relative to the general American standard of about nine inches. In nearly every instance where the preferred model of car is given it is seen to be of five-passenger capacity or more. From the detail reports published by the Automotive Division it is evident that, inasmuch as the purchase of an automobile is of considerable more financial importance to foreign families than to those in this country, full advantage is usually taken of the maximum capacity of the vehicle and the more passengers it will hold the more value the buyer feels he is getting.

Compilation based on information gathered by Automotive Division, Department of Commerce

Territory	Accessories	Wheels and Tires	Color and Trim	Popular Models	Gasoline Gages and Speedometers	Ignition Clearance	Other
Arabia	Spare tire, mirror	Disk Ballon preferred, but too costly Solid for trucks over 3 T.	Black— Subdued Nickel trim	Open, 99%	British gage speed-miles	Magneto Low	
Argentina	Spot-light and two side lights, spare tire, mirror, heat indicator	Wooden — Increased use disk and wire 50-50 balloon and high pressure	Marine blue, green, black Nickel trim	Closed, 20% Use increasing	Metric gage and speed	90% Battery High	
Australia	Bumper, mirrors, spot-lights, etc.	Artillery Balloon	Brown, tan and gray — blue, green and maroon Nickel trim	30% closed 5 and 7-passenger	U. S. gage speed-miles	Battery High	Rear light operated from within car. Device for letting more air into carburetor Clock

Territory	Accessories	Wheels and Tires	Color and Trim	Popular Models	Gasoline Gages and Speedometers	Ignition Clearance	Other
Austria	Shock absorbers, spare wheel, spot-light, mirror, clock, bumper, insection lamp, heat indicator	Wire for sport and expensive cars Balloon	Shades of green and blue Light colors for open cars Nickel trim	20% closed Roadsters and coupes not popular	Metric gage and speed	Magneto Battery acceptable Low	Dashboard lamp in circuit with tail light required by law
Bahamas		Wood Artillery Balloon		Open 5-passenger	Standard U. S. gage mile speed	Battery High	
Baltic States	Bumpers, spot-light, mirror, heat indicator	Wire-Esthonia Artillery in Latvia and Lithuania Balloon for cars H. Press. for trucks	Colored Nickel trim	10% closed 5 and 7-passenger	Metric gage	Magneto High	
Belgium	Shock absorbers baggage rack at rear Bumpers, spare tire	Disk Balloon	Somber colors	60% closed Low priced Open models		Low	
Bolivia	Locking gas and radiator caps, bumpers, mirror	Artillery Semi-balloon	Showy colors Nickel trim	Opens lead Closed coming in favor 7-passenger	U. S. gage Metric speed.	Magneto High	Special gear ratios for steep hills
Brazil	Spare tire, shock absorbers, dimmer	Wood Disk and wire gaining Balloon	Bright colors Nickel trim	Open	Metric gage and speed.	Battery Not more than 10 in.	
British East Africa	Spare tire, spot-light, heat indicator, windshield wiper, mirror	Artillery Balloon—P.C. H. Press. for trucks	No color pref. Nickel trim		British gage mile speed	Magneto	Absence leg room & adjustable front seat objection to U. S. cars Low gear ratios preferable
Bulgaria	Spare tire, mirror, heat indicator	Wood—Artillery High pressure	Black without fancy trim	Open	Metric gage and speed	Magneto High	
Canada	Complete equipment	Artillery—Disk Balloon	Blue and black Nickel trim	Closed	U. S. gage in Quebec, Ontario, British Col. British gage elsewhere	Battery in eastern provinces Dual elsewhere 9 in. or more	
Canary Islands	Mirror, bumper, heat indicator	Wire and disk Balloon	Bright colors Nickel trim	90% open	Metric gage and speed	Magneto High	
Ceylon	Usual American equip	Disk and metal spoke Balloon	Bright colors Nickel trim	98% open 5-pass	British gage mile speed	Magneto Normal	
Chile		Wood—Artillery Wire Balloon	Dark blue, black; bright on low priced cars Nickel or black trim	Open	Metric gage and speed	Battery U. S. stand	
China	Bumper, spare tire, mirror, wiper, bulb horn, spot-light extra wire or disk wheel	Disk and wire Balloon	Colored bodies Nickel trim	Closed 7-pass	U. S. gage and speed	Magneto for interior—battery for treaty ports 10-12 in.	
Columbia	Bulb horn, bumper, spare tire, heat indicator, mirror	Artillery High Pressure—balloons should be popular	Black, dark blue and cherry	5-7 pass	U. S. gage metric speed	Magneto High	
Cuba	Bumpers, spare tire, heat indicator, mirror	Artillery—Disk High Pressure 75% but balloons gain	Black, deep blue, dark red, deep green, gray	15% closed	U. S. gage Metric speed	Battery	
Czechoslovakia	Bumper, spare tire, mirror, heat indicator, windshield wiper, stop light	Artillery Balloon	Black, deep blue, gray, green Nickel trim	Maximum seating capacity required	Metric gage and speed	Magneto Low	
Denmark	Bumpers, spot-light, mirror, heat indicator, tonneau windshields, stop light, wiper	80% wood artillery—Disk gaining Balloon	Black, red and gray Nickel trim not popular	60% sales are closed 2-seaters not popular	Metric gage or part measurement; metric speed	Low	
Egypt	Kerosene park lamps, bumper, spare tire, mirror	Disk Semi-balloon	Dark colors	20% closed 5-pass	British gage metric speed	9 in. min.	
England	Stop signal, scuff plates, interior fittings, spot light	Wire—Disk Semi-balloon	Black, dark blue for costly cars, lighter colors for others Nickel trim	All weather with collapsible top	British gage Mile speed	Mag. or battery except Mag. for truck Low	4-wheel brakes
Finland	Bumpers, spare tire, mirror, heat indicator, wiper	Artillery— Disk Balloon	Colors, Nickel trim	15% closed 4-5-passenger	Metric gage and meter	Battery— Magneto for heavy trucks 8-9 in.	
France	Bumpers, spot-light, mirror, heat indicator	Disk—Artillery and wire Balloon	Bright colors Nickel trim	40% closed 10% all weather 4-passenger	Metric gage and speed	Magneto Low	Demountable wheels 4-wheel brakes

Territory	Accessories	Wheels and Tires	Color and Trim	Popular Models	Gasoline Gages and Speedometers	Ignition Clearance	Other
French Indo-China	Bumpers, spot-light, mirror, heat indicator, extra tire and wheel	Wire Balloon	Light colors Nickel trim	95% open 7-pass	Metric gage and speed	Magneto Low	
Gautemala	Fully equipped	Artillery Balloon	Bright colors Nickel trim	7 pass. open	U. S. gage and speed	Battery	
Germany	Bumpers, spare tire, mirror	Disk 40% Artillery 45% Wire 15% Balloon	Dark blue, black, dark gray, colored open models Nickel trim	45% closed 15% all weather Berline type for closed models	Metric gage or showing ¼, ½ etc. full Metric speed	Magneto preferred, battery saleable Low	
Greece	Bumpers, mirror, heat indicator	Artillery Disk Balloon	Colors Nickel trim	20% closed 5-passenger	Both metric and U. S. gage	Battery High	
Hawaii	U. S. Stand	Artillery High pressure Ballon gaining	No nickel trim	5 and 7-pass. 25% closed	U. S. stand	Battery	
Hungary	2 spare tires, bumper, heat indicator	Artillery and wire Balloon	Dark, except blue Nickel trim	85% open 7-pass.	Metric gage and speed	Magneto	
India	Bumper, spare tire, spot-light, mirror, heat indicator	Artillery, disk and wire Balloon	Any except black Nickel trim	95% open 5-passenger and roadster	British gage mile speed	Dual High	
Irish Free State	Spare tire, mirror	Artillery Balloon for light cars	Dark colors with bright trim	85% open	British gage mile speed	Magneto	Rigid side curtains preferred
Italy	Spare tire and wheel, spot-light	Artillery High Pressure	Dark blue and dark red, olive gray	4-pass. open—Berline type closed	Metric gage and speed	Magneto Low	
Mexico	Bumpers, spot-light, mirror, heat indicator	Artillery—wire Balloon	Black, dark blue, dark green, dark brown, gray Nickel trim	5-pass. 30% closed	Metric gage and speed	Battery	
Netherlands	Spare tire, wiper, mirror, spot-light	Artillery—disk	Subdued colors	60% closed	Metric gage and speed	Battery or Magneto U. S. stand.	
Newfoundland	U. S. Stand.	Disk Balloon	Colors Nickel trim	40% 5-pass. closed	British gage	Battery 9-10 in	
New Zealand	Spare tire, mirror	Artillery High pressure; balloon gaining	Bright colors Nickel trim	Open 5 passenger	British gage mile speed	Battery 9-in. min.	
Norway	Bumpers, tonneau windshields	90% artillery disk Balloons	Black, gray and red Nickel trim decreasing	80% open 5-passenger	Metric gage and speed	Battery or magneto Low	
Paraguay	Spare tire, spot-light	Disk Balloon	Black—colors should be acceptable	Open	Metric gage and speed	Magneto	
Persia	Spare tire, bumper—spot-lights prohibited	Disk Balloon	No preference	Open	U. S. gage mile speed	Battery Normal	
Peru	Bumpers, spare tire, spot-light, mirror, heat indicator	Artillery Disk Balloon	Bright colors Nickel trim	20% closed Use increasing	U. S. standard gage Metric speed	Battery High	
Philippine Islands	Bumper, spare tire, mirror Standard	Disk and artillery Balloon	Maroon, green, blue, duotones Nickel trim	80% open 7-passenger	U. S. gage mile speed	Magneto Low	
Poland	Standard	Disk Balloon	Bright colors Nickel trim	80-85% open 5-passenger	Metric gage and speed	Magneto	
Porto Rico	Bumper, spot-light, mirror, heat indicator Spare tire	Disk and artillery Balloon	Bright colors Nickel trim	90% open 5-passenger	U. S. gage metric speed	Battery Low	
Portugal	Full equipment	Wood, disk or wire Balloon	Black, dark blue for touring, bright for roadsters	20% closed Use increasing	Metric gage and speed	Magneto	
Spain	Bumper, spare tire, spot-light, mirror heat indicator	Wire 60%; artillery gaining Balloon and high pressure	Blue, light green, gray, dark red Nickel trim	70% high price cars closed 7-passenger or 4-passenger sport	Part measurement gage, metric speed	Battery and dual 10-12 in.	
Uruguay	Bumper, bulb horn	Artillery 50% Wire 40%, balloon	Dark blue, gray, green, red and brown Nickel trim	70% open 5 and 7-passenger	Metric gage and speed	Battery or magneto High	

Just Among Ourselves

Automotive Shipments and Railroad Revenue

MOST railroad executives today realize that automotive prosperity helps their organizations very materially. Among the latest examples of such recognition is the statement made by C. H. Markham, president, Illinois Central System, that freight revenue received by his road from hauling products connected with motor vehicles or road building is about one-eighth of its total revenue. May the percentage continue to increase!

* * *

Additional Light on Used Car Situation

EVIDENCE continues to drift in indicating both that the used car is bothering dealers more this year than for some time past and also that very liberal instalment terms on new cars have had an adverse effect on sales of used vehicles. We've talked about this a number of times in the past, pointing, among other things, to a Chilton Class Journal Co. survey of last year which indicated that the number of used cars sold are to the number of new cars sold as 1½:1. If that average is correct, and it probably is conservative, some dealers must be compelled to sell 3 or 4 used cars for every new car they move, especially since the trading in of used cars on used cars seems to be getting more common in some sections.

* * *

Used Cars Pile Up With New Car Sales

ABOUT the end of January, this year, a dealer wrote to an important finance company stating his experience as regards used cars as follows: "I find my used car stock instead of remaining on a common level in proportion to new car sales has increased—because of new car volume—nearly 100 per cent. And because of this increase in used car stock, should I do the same volume of new car business in 1926 as I did in 1925, it will be necessary for me to find a market for 3½ used cars for every new car sold. . . . I find that because of the condition created by finance companies that persons who should buy an $800 used car, buy a new one for a like amount because they can secure it for a less down payment and a longer period in which to pay—and the only hope I have of making used car sales is to compete with finance companies both as to down payment and period of time, and in order to do this I must of necessity carry this risk myself."

* * *

Is It a Question of Financing?

THE problem thus created doesn't lend itself to any easy solution. To make terms on used cars as liberal as those now available on new cars isn't likely to help the situation very much because of the heavy losses on used cars which almost certainly would accrue from such action. Holding new car terms to conservative limits would be a safer way out, and, to some extent, that method is being applied. Difficulty arises from the fact that the dealer often feels it desirable—considering his business as a whole—to move a used car even if there is a credit chance to be taken, particularly if he can get a finance company to take the chance. The finance company, on the other hand, naturally is not interested in assuming financial responsibility for the credit unless a net profit seems likely on the transaction. That dealers bear personal responsibility for much used car financing in one way or another is indicated by the fact that they sell 1½ or 2 used cars to every new car, while finance company records almost invariably show that the finance company handles more new car credits than used car. New car financing occupied the center of the merchandising stage for much of 1925, but it would not be surprising to see the spotlight shifted to used car financing question during the current year.—N. G. S.

RECEPTION ROOM MONARCHS

No. 3, The Host

THIS job really is important and it's got to be done right. Every time a man comes in here he gets some sort of impression of the company, whether he gets any further than this reception room or not. And, believe me, he doesn't hesitate to express his opinion of the organization outside if he gets half a chance. I can build goodwill for this outfit that may be worth thousands of dollars to it every year. It isn't hard to do, but it does require courteous, prompt and pleasant service to everybody that comes in. I'm just an ordinary, alert fellow of some sixty summers and, I don't always feel so good myself, but I never let a personal grouch butt into my work. After all, my real job is to prevent other people from getting grouches and to remove those which they have when they come in. It's rather interesting sort of work, trying to serve satisfactorily a whole lot of men of different temperaments and different ideas. Got to be all things to all men. It seems to me like important work, but I realize that to many it's just a routine task. I try to make our visitors feel as though I was their spokesman in trying to get them in touch with the man in the company they want to see. I try to make them feel that I represent them rather than the company, as in a sense I do. And, in that way, it seems to me, I really help build goodwill for our organization, decrease the number of knockers and so do a real service for the company. I hope so anyhow.

High Production Jobs Handled on Standard Machines With Special Fixtures

Cost of tooling for special operations relatively small. Machines can be used for other set-ups. Developments in milling equipment greatly increase range of usefulness.

By Walter L. Carver

FOLLOWING are some examples of the present tendency toward the use of standard machine tools equipped with special fixtures for the handling of high production jobs which have been taken from recent tooling developments of the Cincinnati Milling Machine Co.

In each case the job is one which is in continuous daily production and the machines are fully standard and capable of being utilized for other set-ups while the cost of the tooling is but a fraction of the cost of the machine. These examples also indicate the possibilities of using the relatively smaller types of machine tools for operations on castings of considerable size.

Fig. 1 shows a straddle milling job on a gear box which includes the bell housing. In this design, levers for the four-wheel braking system are mounted on vertical shafts which have bearings in the webs at the sides of the bell housing. The faces of these bearings are not symmetrical with the horizontal centerline so the casting is placed somewhat off the center of the rotating fixture. In addition to this provision, the arbor carries two pairs of side milling cutters and each pair serves to straddle mill one bearing.

A single nut at the head of the pilot passing through the front bearing bore of the gearcase holds the casting down on the base, the flange joint having been machined in a previous operation. The 24 in. plain automatic milling machine is equipped with stops which control the feed during the cutting time to 8.3 in. per min. and also provide rapid travel out to the loading and indexing point. In production, the operator is required to load, index once and unload. Indexing is done by the lever at the right of the illustration. The hourly output of this machine is 32 complete pieces.

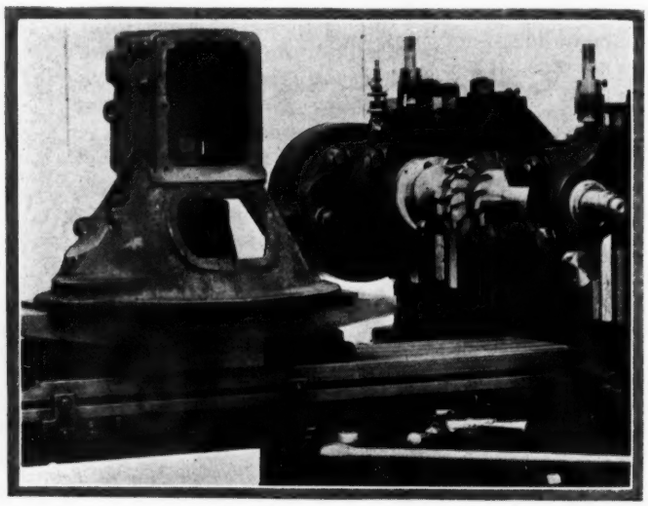


Fig. 1. Milling brake operator lever shaft bearings in plain automatic machine. Fixture is indexed for bearing at each side and two sets of cutters are used

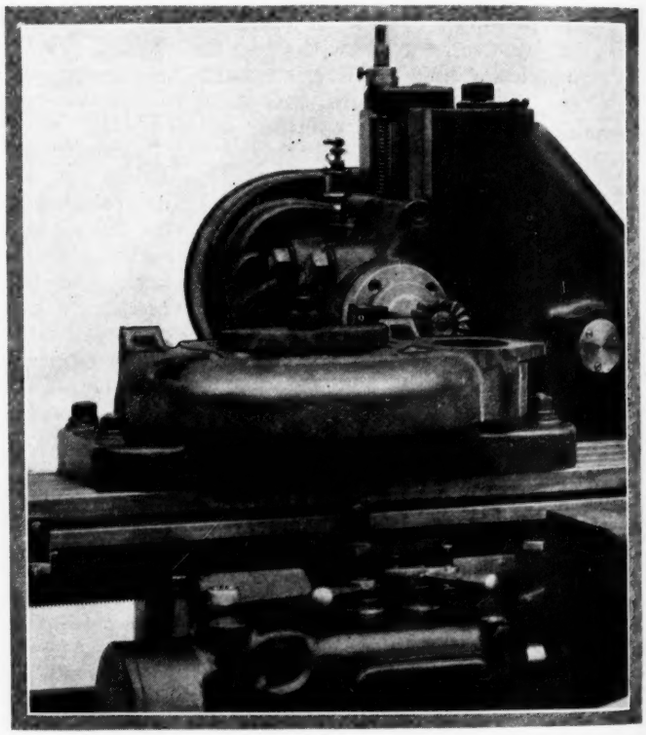


Fig. 2. Milling flywheel housing mounting pads in plain automatic. Distance between pads is jumped at high speeds by stop arrangement on table

A similar machine without the outer arbor support is shown, in Fig. 2, engaged in facing mounting bosses on a flywheel housing. As this engine is set at a slight angle in the chassis, the mounting face of the fixture is machined off at an angle of 1 deg. and 44 min. The flange face of the flywheel housing is finished in a previous operation. Two 9/16 in. diameter dowel pins which extend into locating holes determine the position of the casting and a single nut and clamp hold it down.

In the case of this operation the selective stop control on the table of the milling machine causes the cutters to feed across the face of the pads at the rate of 6¼ in. per min. and the gap between the pads is automatically jumped at the rate of 150 in. per min. A similar high speed traverse action brings the table back

to the loading position. A Stellite shell end mill of 2½ in. diameter is used and the amount of stock on the rough casting is 1/16 in. Production is between 30 and 35 pieces per hr.

Fig. 3 shows the back facing operation on the same flywheel housing. For this operation a No. 4 vertical machine equipped with a face mill of 10½ in. diameter is used. Two fixtures are placed at opposite ends of the table. The castings are held down by set screws passing through short bars as shown. In this operation the selective stop control provides the correct cutting feed across the swept surface and then moves the table rapidly to the opposite end for a repitition of the operation on another casting which is loaded during the first cut. The material is cast iron with 1/16 in. finish allowance and the production rate is 36 pieces per hr.

Application of the same automatic high speed traverse features is made in the 48 in. duplex automatic machine shown in

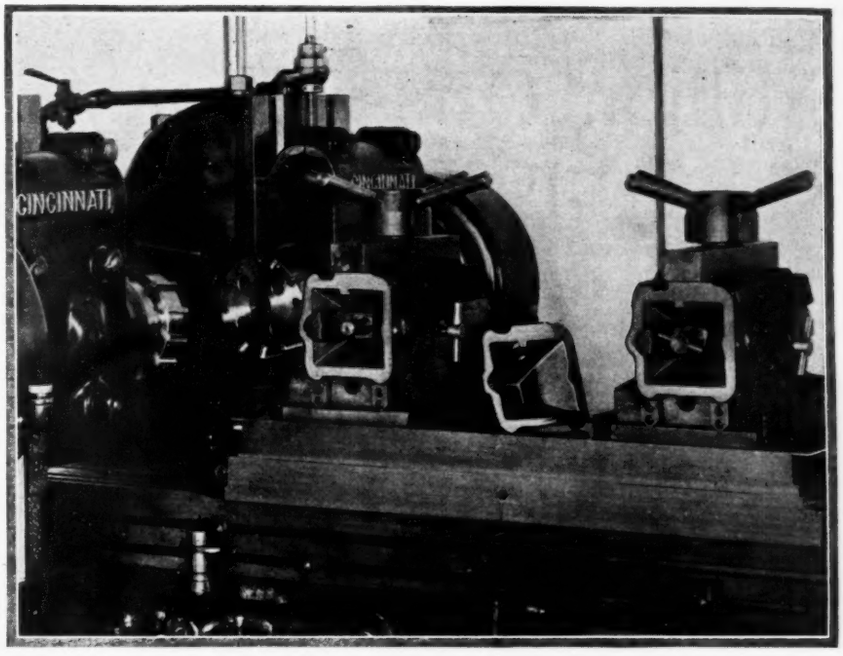


Fig. 4. Combination of automatic duplex milling machine and indexing fixture mills approximately 90 pieces per hr.

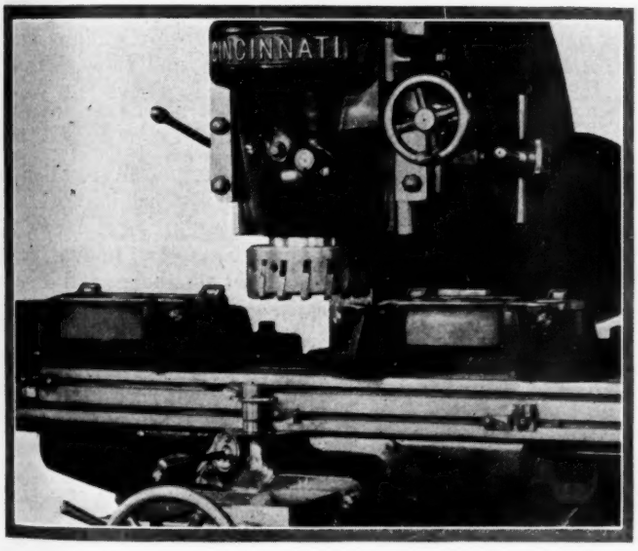


Fig. 3. Two flywheel housing fixtures mounted on opposite ends of vertical milling machine table. One is loaded while other is in process

Fig. 4. Again an indexing table is used but each end carries two rough castings which pass between ½ in. diameter face mills. These malleable iron gearshift lever brackets are placed on opposite sides of the fixtures at each end of the revolving table and are held down by clamps equipped with wedge shoes at each end. Hardened locating blocks support the lower edges of the castings and a single support within the fixture head supports the overhung weight of the body. The operator loads one fixture while the other is passing between the cutters. Withdrawal to the loading position after the completion of the cut is made at high speed, as is the return after indexing. Both of these actions and the cutting speeds are established automatically. The production rate is 90 pieces per hr. and the finish allowance is ⅛ in.

Plane Uses Slotted Ailerons

A GERMAN newspaper concern, the "B.Z. am Mittag," has put an aeroplane incorporating the Handley-Paige-Lachman slotted ailerons into commercial operation. Although it has been known for a number of years that the incorporation of slotted ailerons in aeroplane design increases the lift and enables the plane to land at lower speed, no successful commercial plane has been built until now incorporating these features. The new plane was built by the Albatros Works in Berlin and is called the model "72A." In addition to the slotted ailerons it also is equipped with leading edge slots. It has been found that the operation of these slots decreases the landing speed of the plane by 22 miles per hour. The plane will be used for the distribution of newspapers and the cabin has been fitted with 16 chutes which can be operated from the pilot's cockpit, each one releasing some 20 lb. of newspapers. The cabin can also be altered very easily to accommodate four pasengers.

The construction of the plane is of the all-metal type with a fabric covering on the wings. A further interesting feature is found in the design of the rudder and fin, both of which are pivoted so that the fin rotates around a vertical axis coincident with the movement of the rudder, the object being to get a more powerful rudder control with smaller angular movements. Wind tunnel experiments have shown that the effectiveness of the rudder is increased 40 per cent to 50 per cent by this means.

The plane is equipped with a 220 hp. B.M.W. engine and has an empty weight of 2160 lb. with a useful load of 1540 lb. Although the wing load is rather high, being 11.35 lb. per square foot, the landing speed is only 46 miles per hour with the slots open. Top speed is 112 miles per hour and cruising speed 105 miles per hour.

OF the passengers which left the French flying field of Le Bourget in January, 11 per cent were French, 49 per cent British, 19 per cent American, 10 per cent Dutch and 11 per cent of other nationalities.

Million Cars a Year *for* Export *Before* 1930, Predicted by Rice

General Motor executive discusses automotive exports at meeting of Foreign Trade Council. World on more prosperous footing, says Dodge director.

By George Quisenberry

Editor, El Automovil Americano and The American Automobile (Overseas Edition)

TWO things of particular importance to the automotive industry stand out from the discussions and speeches of the thirteenth annual convention of the National Foreign Trade Council held at Charleston, S. C., the last three days of April. Evidence given by numerous speakers of the economic improvement and steady betterment of general business conditions in Europe was the first of these. The second was the exposition of the advance in American export technique and practice in the years since our manufacturers were thrown "willy-nilly" into overseas trading as a result of the war.

In both of these developments is promise and satisfaction for the automotive industry, which now stands as the largest exporter of manufactured products from America.

The decision of the council to hold its 1927 convention at Detroit provided another announcement of special interest to automotive men. Detroit's advantages as a site for the next convention were presented by a group of Detroit representatives and automotive executives, headed by H. H. Rice, vice-president of General Motors, and Edwin Denby, former Secretary of the Navy. The meeting will be held late in April or early in May of next year. The demand of the Detroit representatives was made more insistent, of course, by the fact that the automotive center has assumed a commanding position in America's foreign trade and the convention attendants—who represented every phase of American industry and agriculture selling its products abroad—were in common agreement that the automotive industry is fully entitled to this testimony to its export importance.

Industry Well Represented

The industry, as is always the case, was well represented at the convention, although the visit of the Pan-American journalists to the automobile plants in the Michigan, Ohio and Indiana territory prevented a number of export executives from being in Charleston. However, there were men of the industry from New York, Detroit, Cleveland and other cities.

The "high-light" address of the convention was made by Henry M. Robinson, president, First National Bank of Los Angeles, who is now connected with the industry as a director of Dodge Bros., Inc. He discussed "The European Situation of 1926."

Mr. Robinson was one of the three members of the Dawes Commission, with General Dawes and Owen Young, and consequently his pronouncement that Germany is meeting her reparation payments without difficulty and that no untoward events in connection with reparation payments were imminent assumes a high degree of importance.

Detailing the advances made during the past year in the various European countries, Mr. Robinson said:

"During the past fifteen months there has been marked, actual and definite improvement of the machinery of foreign and domestic trends in trade and industry and finance in most of the European countries and also a better actual economic and financial condition. Many steps have been taken in various countries and in various directions that show a distinctly favorable trend.

Situation Improving

"We should, I think, look for the general situation in Europe for the year 1926 to show a distinct improvement over the year 1925 in living standards, wage increases, shorter working hours, adjustments in undue tariff obstacles—all of which would benefit commerce and if such improvement should come we may expect to participate."

The improvement in our export practice was attested by several speakers. James A. Farrell, president of the United States Steel Corporation and chairman of the Foreign Trade Council, spoke of this in opening the convention. He said:

"Consideration of our foreign trade for 1925 disclosed some striking facts. It was larger both in value and in volume than in any previous normal year.

"We are reaching the stage of expanded interest and participation in foreign trade which tends to diminish the risk of the whole because of its widened distribution. No doubt there will be setbacks, local depressions and situations unfavorable to a single line over an extended period, or unfavorable to several lines over a shorter time.

"The development of our trade is the result of intensive study of the whole subject which thousands have been making in recent years. American foreign trade practice has benefited incalculably.

The only direct reference to automotive exports was contained in the address of Mr. Rice, who outlined broadly the export position of the industry, saying:

"About 200,000,000 automobiles would be needed if the rest of the world had an average of as many cars per 1,000 inhabitants as the United States. Although such a situation is at present unthinkable, even now there is a large foreign demand that can best be appreciated by a comparison of the automotive export market with the domestic trade.

"With a total output of four million units, in round numbers, our exports last year exceeded the half mil-

lion mark. In other words, there were actually sold abroad as many automobiles as were bought in twenty-three of our own states at home. It is confidently predicted that our exports of automobiles will reach one million annually before 1930.

"In view of this one can readily appreciate why the automotive executive has become keenly alive to his export trade. He is helping to expand it in two ways:

(1) By studying and devising solutions for problems affecting the marketing of his own automotive products abroad.

(2) By contributing his effort to the general development of motor transportation and thus expanding the market for all.

"It is of this second activity I shall speak. The executive is short sighted who stops with a study of his own business. It is only as the whole volume of export trade expands that he can expect a larger proportion for his own company.

Furthering Export Trade

"To that end, executives in the motor industry have taken a great interest in all foreign trade work and in the general promotional activities carried on by the National Automobile Chamber of Commerce in furtherance of export trade. The primary purpose of these activities is to familiarize people throughout the world with the economic value of the use of motor vehicles.

"We must buy as well as sell and, as in every good bargain both parties gain, so prosperity and the rest of the world will follow the stimulation of desire for each other's goods or services.

"This is a problem not only of each executive for his own business but for the cooperative work of each company for its own industry and of all industries for their country."

The subject of rubber was brought into the convention discussions through the message read in behalf of Dr. Julius Klein, Director, Bureau of Foreign and Domestic Commerce. Dr. Klein, speaking of governmental control of raw products, estimated that twenty per cent of our total imports in 1925 were of raw materials over which foreign price controls of official or semi-official character are currently exercised, notably rubber, coffee, nitrates, potash and sisal. Furthermore, almost 50 per cent of our imports are capable of similar control, because in each case one or two countries supply the bulk of this trade, covering a wide range of important foods, minerals and chemicals.

Touches on Rubber Situation

Dr. Klein also in his address touched upon the increase in rubber production in other than British territories, saying:

"The whole tendency toward disorganization resulting from governmental control is well exemplified by the rubber case. Under the stimulus of high prices the rubber gatherers advanced again into the Amazon basin, guayule plants were reopened, important developments were started in Africa, the Dutch Colonies of the Far East expanded facilities enormously. Are all of these developments and those in the British area to be overtaken by financial and commercial difficulties by reason of the inevitable price reaction? And are the British producers to find that they have swapped their heritage of assured control for the pottage of immediate profits?"

The declaration of the Council, which is issued at the close of each annual meeting, sums up the trends exhibited in our foreign trade. As pronounced at the Charleston meeting, it read in part:

The foreign trade of the United States for the calender year 1925 measured by value and volume was the largest of any normal year. It exceeded in value that of 1924 by more than $900,000,000 and in volume by more than a million and a half tons. The increase of exports was 6.9 per cent, and the increase of imports was 17.1 per cent. This change has been accentuated in the first three months of this year.

We should, however, recognize that imports of materials not readily produced here are necessary and tend to increase foreign buying and assist our exports in finding ready markets.

World trade has nearly recovered the volume it had reached in 1913, and this year it should attain pre-war basis.

American foreign trade is in a firmer position than ever before, for our trade practice has been so improved that our competitors recognize it as standard in world commerce.

This situation calls for continued vigilance and activity. There are many ways in which further improvement may be made. Certain matters relating to trade procedure are wholly within the control of the traders themselves. Others call for Congressional action. The American people are convinced that the maintenance of a merchant marine privately owned and operated, is essential to both our commerce and national defense. The chief agency for the accomplishment of this purpose is the support of American ships by American importers and exporters.

Foreign Trade Zones Needed

The great expansion of the re-export element of world trade during the last year demonstrates more strongly than ever the need for foreign trade zones in our ports, as our shipping and our foreign traders suffer severely from this handicap. Our share in the total international trade of the world last year was 18 per cent, but our share of the world's re-export trade was less than 3 per cent.

A measure of much importance to our foreign trade, which is now pending in the House of Representatives, is the bill to repeal the provisions of existing law which block the negotiation of a permanent parcels post convention with Cuba. This measure should be promptly enacted so that American manufacturers generally could be assured of permanent access to this Cuban market on a footing of equality with Europe.

We urge the prompt enactment of the bill now pending in Congress, the purpose of which is to place the trade promotion service of the Department of Commerce upon the basis of permanent career and the maintenance of its personnel within the civil service as at present.

ABOUT a year ago the Railways Department of South Australia ordered in this country twelve railcars with a seating capacity of 50 passengers each. According to a recent report, these railcars are giving excellent service and are said to have placed the passenger traffic on certain of the country lines on a payable basis; steam traction, which had been used previously, had proved quite unrenumerative. The chassis of 25 railcars were recently imported; these, when complete, will be able to accommodate 80 passengers. The bodies of the cars will be constructed locally. The bus service, which has been extended to different parts of the State, will also be increased.

Tire Saving Justifies Paving of Road if Used by 72 Cars a Day

Further tests conducted by Engineering Experiment Station of State of Washington show that tire saving per car on concrete is $18.96 per thousand miles as compared to rougher surface.

FURTHER tire wear tests carried out by the Engineering Experiment Station of the State of Washington have led to the conclusion that when the density of traffic on a road reaches an average of 72 motor vehicles per 24-hour day the saving in tire wear resulting from a paved surface will justify the extra cost of paving.

It is recognized that a reduction in tire wear is only one of several advantages of improved roads. Other resulting benefits are a saving of fuel, a reduction in the depreciation of the machine, more comfort for the passengers and a saving in time. The figures arrived at for the traffic density necessary to justify paving therefore are really a good deal above the actual minimum.

Tests on the effects of different road surfaces on the wear of pneumatic tires were first conducted by the Washington Station, which is located at Pullman, in 1924, and the results were published in a bulletin which was abstracted in the April 9, 1925, issue of *Automotive Industries*. Experiments along the same line were continued last year and these are covered in a "Second Progress Report on the Relation of Road Surfaces to Automobile Tire Wear" by J. H. J. Dana.

Wear Determined by Weighing

The tests in 1925 were carried out in about the same way as those made in 1924. That is, after each run on the highway the tires were cleaned, deflated and weighed, and the difference in weight was taken as a measure of the wear which had taken place in the distance run since the last weighing. The speedometers were carefully checked from time to time against measured distances on the highway and against each other.

In the 1925 tests four cars were used, and the total mileage covered was 3548.2, of which 1587.5 were run on paved roads (about six times as much as the previous year), 1870.7 miles on crushed rock and 252.4 miles on gravel (none the previous year). Tests were made at 15, 20, 25 and 30 m.p.h. and the atmospheric temperature range was from 60 to 105 deg. The deduced figures of tire wear from the 1925 tests are given in the following table.

Table I—Comparative Tire Wear at 30 M. P. H.

Car Used	Car Wt.	Av. tire wear lbs. per 1000 mi. Pavement	Crushed Basalt	Water worn gravel	Tire wear per ton wt. of car Pavement	Crushed Basalt	Water worn gravel
1	1740	.0477	.2972	....	.0548	.3400	....
2	2750	.0560	.5260	....	.0406	.2940	....
3	3560	.1133	.6616	.4900	.0638	.3000	.2220
4	4400	.1183	....	.6250	.0537	....	.3500

Most of the earlier tests were made on crushed rock (macadam) roads, but last year a considerable proportion of the tests were run on concrete and bituminous concrete, to determine the tire wear on these and see whether there is an appreciable difference getween the rates of wear on the two. The tests revealed the fact that with any good pavement tire wear is not the factor that determines tire life, as some other factor, such as stone or nail bruise, overload or under-inflation, will usually cause the destruction of the tire before the tread has worn out. But final failure seldom occurs until the protection given by the tread has been much reduced by wear.

Another phase of the problem, namely the comparative wear on tires and gasoline consumption when traveling up and down hill, has been given some attention, but the results obtained so far are not conclusive. The tests showed a considerable increase in gasoline consumption per 1000 miles when traveling up and down hill, as compared with travel on level highways, viz., 12 per cent in the tests with one car and 21.5 per cent with another.

In Fig. 1 are shown the average gasoline consumptions in relation to car speeds, of two of the cars used in the tests, when driven over a road which is almost level and in excellent condition. It is pointed out that car speed is not the only factor affecting gasoline consumption, the condition of the engine, the adjustment of the carburetor and the timing of the ignition also having an influence. The results seem to be at variance with those obtained by other experimenters, in that the fuel economy is the highest at the lowest test speed, 15 m.p.h. At such low car speeds the engine usually carries very little load and therefore does not operate very efficiently. The general impression has been that the fuel consumption is a minimum at car speeds of 25 to 30 m.p.h.

In Fig. 2 are shown the gasoline consumptions of the two cars on Lewiston Hill at 20 m.p.h., both up and down, and these figures are compared with the consumptions of the same cars on level road at the same speed. Lewiston Hill is 8 miles long and averages 4.2 per cent grade, no portion of the test section being over 5 per cent. There are several hairpin turns on the hill, and the road is of crushed basalt. In some places the road was rough and the road material loose.

Going down hill the engine was left in gear and whenever necessary the brakes were applied just sufficiently to keep the speed down to 20 m.p.h. The fuel consumption down hill represents the consumption of the engine with closed throttle and with normal carburetor adjustment. This consumption could have been much reduced by altering the carburetor setting, but that would not have been a normal operating condition. In Table II the fuel consumptions up and down hill and on level road are compared.

Table II

Car Used	Gasoline consumption—Gallons per 1000 miles Down	Up	Aver.	Level	Diff.	Difference in cost at 25c p. gal.
2	35	90.8	62.9	51.8	11.1	$2.77
3	36	104.8	70.4	62.8	7.4	1.85

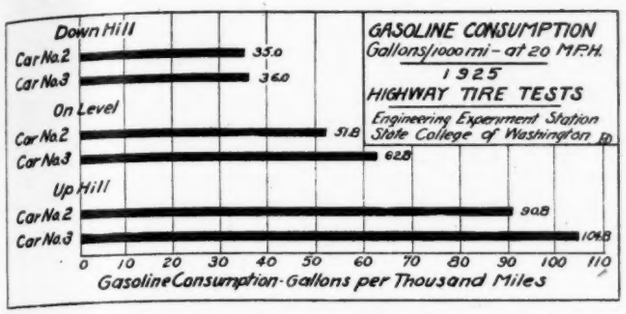


Fig. 1 Fuel consumption as related to car speed

From the figures presented it will be seen that with gasoline at 25 cents per gallon, travel on hilly roads costs from $1.85 to $2.77 per thousand miles more for gasoline than travel over level roads. From Fig. 1 it will be apparent that if the car were allowed to coast down the hills with the engine shut off and if the distance down hill were equal to the distance up hill, a given car could be driven a longer distance on a gallon on hilly than on level highways, this being due to the fact that in going up hill the engine is more highly loaded and works more efficiently. However, it is not customary to shut off the engine in going down hill, and the comparison therefore cannot be made a basis on which to judge the desirability of reducing or eliminating grades.

Other Factors Involved

The value of improved highways depends upon a considerable number of factors, including their effects on gasoline consumption, tire wear, depreciation of the machine, etc., while their effects on the speed and load limits are also factors. The tests made by the Washington Experiment Station relate mainly to the tire wear and the following analysis is based upon the results obtained with respect to this factor.

The average tire wear for a touring car of 3500 to 3700 lb. weight at an average speed of 30 m.p.h. as determined from the 1924 and 1925 tire tests was .554 lb. per tire on macadam and .080 lb. per tire on pavement per thousand miles. The total tire wear per car for all four tires in each case would be 2.216 and .320 lb. respectively, considering standard 33 x 4 tires only. The difference in tire wear per car on the two types of highway will be 1.896 lb. per thousand miles.

If it be assumed that an average of 3.45 lb. of tread rubber is worn off in the life of this type of tire, and if the cost of the tire be divided by the amount worn off during its life, the rate will be found to be approximately $10 per lb. Then the cost of tires to operate the above car over average macadam roads will be $18.96 per thousand miles more than to operate it over pavement. If the difference in annual cost per mile between pavement and macadam roads be taken at $501.29, as derived from the Report of the Bureau of Public Roads for 1924, then, on the basis of tire wear alone, it will require a traffic of 26,400 such cars per year or an average of 72 cars per 24-hour day to justify the building of the better road. The other advantages of improved roads enumerated previously will cut down this figure considerably.

Chicago's New Traffic System

A RATHER new development in traffic control methods has been installed in the Loop District of Chicago and gives promise of affording considerable relief to congested traffic centers since in the short time it has been in operation traffic has been speeded up from 25 to 50 per cent through the district, which is particularly congested.

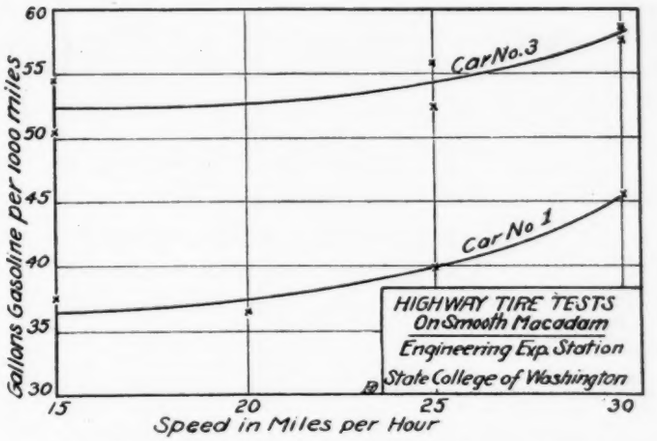


Fig. 2 Fuel consumption on up and down hill and on level roads

The system consists of traffic lights at each street intersection which are controlled by individual relays so arranged that the signals change from "stop" to "go" progressively as traffic moves along the street. In riding through the district one has the impression that his luck is great since just as he approaches a corner the signal changes to let him proceed although the signal in the next block may still be red. But, as he approaches the next block, its signal too, as if waiting for his arrival, changes to green and in many instances he is enabled to complete the trip through eight or ten blocks of Chicago's busiest district without being held up once by traffic signals.

Since trolley cars operate in most of the streets of the Loop and the streets are so narrow that a stopped car also stops motor vehicles the system was designed primarily to move trolleys. In determining the sequence and cycles of light changes, detailed studies were made of the time necessary for a car to move through the district, making the usual stops for loading and unloading passengers. This average period having been determined, the lights were arranged to operate so that a trolley entering the Loop, for example, at the beginning of a "go" signal can load or unload and move past the intersection while the light remains green; arrive at the next intersection at the tail end of a red light period or the beginning of the green light; load and unload; proceed under the green light and so continue through the entire district without delay.

If, by chance, the car enters the Loop at the tail end of a green light period it probably will be held up once during its progress but after one stop it then is in synchronism with the lights and can proceed with no further trouble from the signals.

In this system all traffic moves in waves. Thus while traffic is being held at one intersection by adverse traffic signals, traffic is advancing ahead so that when the hold-up traffic is permitted to proceed there will be a considerable distance separating the two waves. This intervening space separating the various waves of traffic is utilized for passage of cross traffic so that only rarely is a car kept from moving because of this.

First operations under this plan were made early in February so that there still is lacking sufficient experience under all conditions of traffic to permit accurate evaluation of the plan. In theory, it appears to offer many more possibilities of effective movement of heavy traffic than either the synchronized system in use generally throughout the country or the method of individual control at each intersection quite independent from that at other corners.

Machines for Drilling Piston Pin Holes Introduced in Three Sizes

Largest of line, designed for high production work, has a capacity of 250 to 300 pistons per hour. Holes bored, size-reamed and finish-reamed to accuracy within .001 of inch.

A LINE of machines for drilling the piston pin holes in either iron or alloy pistons has been marketed by the Hoefer Mfg. Co., Inc., Freeport, Ills. Machining of the piston pin hole is a most important operation, as the hole must be both accurate in diameter and absolutely square with the piston axis.

Fig. 1 shows a machine which is entirely hand-operated and intended chiefly for the jobbing and replacement trade. Its chief feature is the ease with which it can be changed over from work on one size to work on another.

In position 1 the piston is loaded into a four-position trunnion fixture, working from the same surfaces which the manufacturer uses in his other operations. In position 2 of the trunnion the holes are rough-drilled from each side through guide bushings. In position 3 the hole is size-bored straight through from one side with two single point tools, spaced so that one finishes before the second begins, to correct any error in drilling. This boring bar is amply piloted. In position 4 the hole is reamed, also straight through from one side, with a long pilot ahead of the reamer.

Levers Thrown in by Hand

After the operator has brought the various tools up to the work, the power feed levers are thrown in by hand. The travel of the drills is short, each going through only one boss of the piston, and the feed is set in accordance with the size of the drill and the character of the material (cast iron or alloy). The boring bar and the reamer travel through the entire bushing before the tools begin to cut. The feed of the boring tool and the reamer is perhaps four times as fast as that of the drills. All of the tools have automatic stops and the operator returns them to their original position. He then turns the trunnion to its next position, takes off the finished piston and inserts a new one. On ordinary size pistons the production of this machine is said to be from 60 to 75 per hour, depending upon the operator.

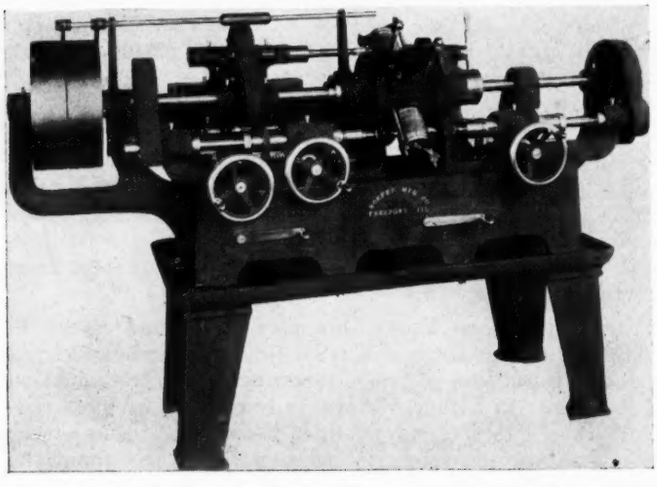


Fig. 1. Hand-operated piston boss drilling machine

Fig. 2 shows a more automatic piston driller of much higher production. The general principle of operation is the same as that of the machine described above, except that the feed is by a cam and the operator only trips a lever, whereupon the cycle is completed, and when the feed stops the tools are returned to their starting position. The trunnion can be made either manually or automatically indexing, in which latter case all the operator has to do is to load and unload the pistons and trip the feed. The machine can be made to chamfer, as well as perform other operations. With this machine, owing to its automatic feature, the production can be increased to from 90 to 120 pistons per hour.

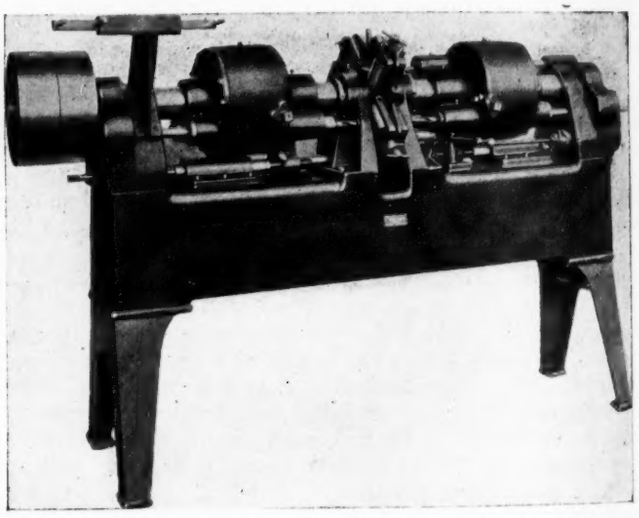


Fig. 2. Semi-automatic piston boss drilling machine

The machine shown in Fig. 3 is the most highly developed production type and is radically different from the other two. The main units of this self-contained machine are the base, the trunnion, the roller-bearing head and the hydraulic unit.

The base is of very strongly ribbed construction, and on it are mounted the two main standards which support the 5-inch main shaft. Mounted on this shaft on the left side is the indexing trunnion, on which are located sixteen holding fixtures. Next comes the self-contained main head, which is direct-motor-driven and has all spindles and idlers carried in roller bearings. The tools are connected to the various spindles through Oldham couplings. A perforated pipe inside the head, connected to a pump located in the housing with the motor drive, supplies a constant spray of oil to all parts inside the head. Adjacent to the main head and fastened thereto is the motor bracket.

On this machine the feed is by a hydraulic device. Both the pump and the motor being mounted on the projection of the main base, the unit is entirely self-contained. The cylinders for the feed are mounted parallel with the main shaft and just above the main driving motor, with the piston rods fastened directly to the main head. This method of feed is said to be particularly adapted for this work, on account of its extreme flexibility, and because the

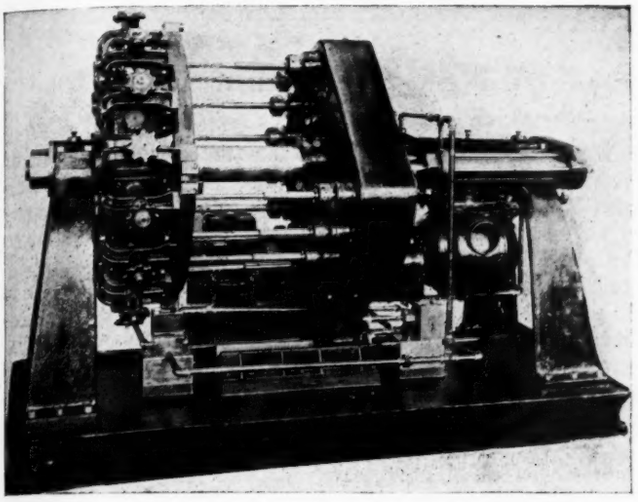


Fig. 3. Automatic multiple-spindle piston boss drilling machine

cushioning power of the oil tends to prevent damage to the machine if any solid object should accidentally interfere with the forward travel of the head.

An interesting feature of this feed mechanism is its control. The indexing trunnion, which is divided into four units or quarters, each holding four fixtures, has attached to it four cams at these dividing points which, upon rotation of the trunnion, trip a pin (not shown) which starts the working cycle consisting of the following phases:

(1) Rapid approach
(2) Cutting speed
(3) Rapid reverse
(4) Stop

Both the rate of feed and the duration of each phase of the cycle can be easily varied. It is impossible for the machine to start until the operator has finished the loading operation and indexed the trunnion to its next working position.

Three Groups of Spindles

The main head consists of three groups of four spindles each. The first group consists of four boring bars on which can be mounted either one or two cutting tools, depending upon the amount of metal to be removed. The second group consists of four sizing reamers, and the last group of four finishing reamers. It will be seen therefore, that by using the double cutters in the boring bars, four distinct operations are performed, two boring and two reaming.

One advantage claimed for this machine is that the different holding fixtures are not dependent on the machine itself for alignment and accuracy. The fixtures are secured to the trunnion by large centrally located bosses and held in place by four screws each. Hardened and ground steel bushings are provided at the ends of the fixtures, and all cutting tools are ground to pilot in these bushings. In view of the fact that the boring bars are driven through universal joints, as soon as they have entered the guide bushings they become a unit with the holding fixtures and the accuracy obtained therefore depends upon the fixture.

It is stated that with this machine an operator can take off from 250 to 300 pistons per hour, according to the type of fixture used, the pistons being bored, size-reamed and finish-reamed to an accuracy within .001 of an inch.

Productivity of Laborers

INCREASING the productivity of unskilled laborers, who are mostly employed in moving materials, by providing them with high-grade power-driven equipment is the solution to the problem presented to manufacturers through the present restrictions to immigration, according to the belief held by Eugene B. Clark, founder of the Clark Tructractor Co., and presented in a small booklet published by the company.

There always has been a demand for unskilled labor and there will probably continue to be a demand, writes Mr. Clark, but present immigration laws are rapidly depleting the supply. "The manufacturers solution of this problem," he says, "is not difficult to express. He must reduce to the minimum the number of his unskilled laborers and increase to the maximum the productivity of those he retains."

"The manufacturers of the country pay for moving materials within their plants 80 per cent of what they pay for express, freight and parcel post."

Americans have made great progress in developing methods of moving heavy articles of manufacture and in long distance transportation, but Mr. Clark believes that we have not given sufficient attention to possible improvements in the bulk of manufacturing operations. "Man as a burden bearer is still a tremendously important element in labor costs," he declares. "We give him many tools such as the neck yoke, the basket or box, the wheelbarrow, etc., etc., but we still use him . . . It is in the increased productivity of this class that the manufacturer must look for the solution of his problem arising from restricted immigration."

This result can be obtained by providing power-driven tools to make internal transportation more easy and rapid. That this has not been done before to a greater extent is due to its difficulty. The problems presented by individual material handling jobs make designs hard to standardize and lack of realization of employers of the need for providing better equipment for their unskilled workers increases the difficulty of selling such devices. "In time," Mr. Clark believes, "manufacturers will become educated to the fact that the unskilled workman, as well as the skilled workman, should be provided with high-class tools.

"No manager has difficulty in securing appropriation to purchase new machine tools if the annual saving can be shown to represent a yield of 50 to 100 per cent on the investment. On the other hand, the expenditure of $1000 to $1500 for a highly developed tool to save unskilled labor is far more difficult to authorize."

The cost systems used throughout industry are designed to show in detail the efficiency of skilled labor but usually do not show the efficiency of unskilled labor. The latter class is included under the head of non-productive labor and is considered a necessary evil about which little can be done.

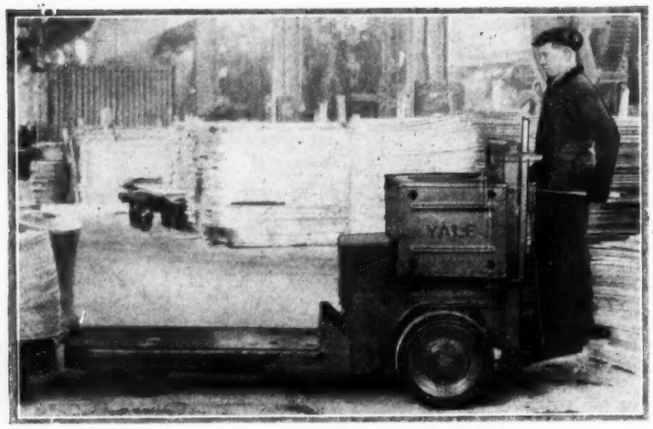
REFERRING to the small "high efficiency" engines in use on European small cars, Col. Martinot-Lagarde says in an article in *La Technique Moderne* that since 1914 piston speeds have increased from 1450 to 1800 ft. p. m., mean effective pressures (brake) from 116 to 128 lb. p. sq. in. and volumetric compression ratios from 4.6 to 5 and over.

New Developments in Automotive

Heavy Duty Platform Truck

A NEW elevating platform truck for heavy loads has been developed by Yale & Towne Manufacturing Co., and is designated as Model K23E. It embodies all the characteristic features of the Yale K series of trucks, such as a spur-geared unit power axle with enclosed alloy steel gears mounted on ball bearings and running in oil, heavy pressed steel frame members, triple spur gear elevating mechanism and mechanical upper and lower limit stops.

The truck has a short turning radius and is narrow so



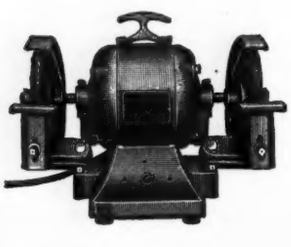
Yale & Towne Model K23E Elevating Platform Truck

that it may be manipulated easily in aisles. Hardened steel steering pivots with bronze bushings make steering easy and large tires which will not squelch out under load also add to ease of control.

Van Dorn Bench Grinder

A NEW bench grinder for small grinding jobs is being marketed by the Van Dorn Electric Tool Company of Cleveland. It can be furnished, if desired, with a twist drill grinder attachment that has a micrometer adjustment and sharpens twist drills accurately, according to the manufacturers. This grinder comes complete with two grinding wheels, adjustable tool rests, wheel guards, switch and cable ready for use. It is provided with a handle for convenience in carrying about the shop.

A safety feature is provided in the adjustable wheel guard, which can be quickly adjusted so that the front end of the guard is always close to the grinding wheel, thus making possible the safe use of wheels worn down to a small diameter. The speed of this grinder is 3600 r.p.m. and the wheel size is 6 in. in diameter by ½ in. face by ½ in. hole.

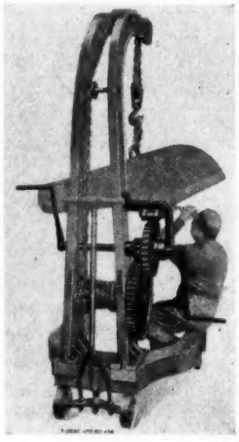


Van Dorn 6-in. electric bench grinder

A New Aluminum Wheel

A NEW vehicle wheel of light weight and possessing special advantages from the tire servicing point of view has been placed on the market by the New Aluminum Wheel Corp., Elizabeth, N. J. The wheel is made in halves, the plane of the joint being perpendicular to the axis of the wheel and the halves held together by studs at the hub and the rim or felloe. The wheel is of the spoked type, the spokes being of hollow section tapering down from the hub toward the rim. At the hub the wheel rides on the periphery of companion flanges, and when the nuts of the retaining bolts are removed the whole wheel comes off. By removing the nuts from the rim bolts or studs the two halves come apart and the tire then drops off. The halves of the rim when brought together form a straight side tire rim and obviate the need for a special rim.

Safety Friction Crane Brake



Crane fitted with new Safety Friction Load Brake

A SAFETY Friction Load Brake for cranes by means of which the load is held at any point under complete control of the operator has been developed by the Canton Foundry & Machine Co., Canton, Ohio. The brake operates on the friction principle by means of disks in connection with a helix and is so designed that the pawl is always engaged in the rachet making it necessary to wind the load down as well as to raise it. The unit is built so that it may be installed on cranes already in service as well as used as original equipment for new cranes. It is said to comply with all state laws which are in force compelling load brakes on cranes.

Warns When Oil is Low

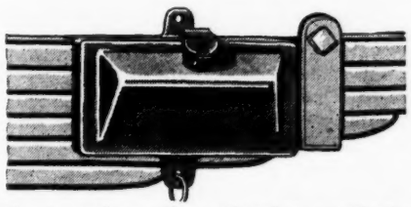
A DASHBOARD instrument which warns the motorist when the pressure in the lubricating system of his engine has become dangerously low is being manufactured by J. E. Malivert, 9-11 rue du Telegraphe, Paris, under the name of the Oleometer. It consists of a pressure gauge, the pressure-sensitive element of which, instead of moving a pointer over a scale, moves a disk having four red sectors thereon and located behind a front or face plate with four corresponding sector-shaped openings in it. When the oil pressure in the system is adequate the red sectors are hidden behind the face plate, whereas if the pressure is too low the red sectors

Accessories and Production Tools

appear in the openings in the face plate and serve as a warning signal. The instrument is said to be sensitive to ⅛ lb. p. sq. in.

Briant Spring Oiler

An automobile spring oiler has been introduced by the Briant Specialty Co., of Indianapolis, which is made of stamped metal with an oil reservoir and a felt oiling pad.



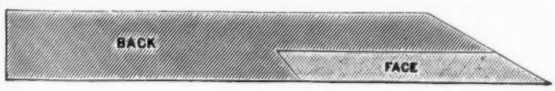
Briant spring oiler, showing method of installation

The oiler is installed with the felt pad against the spring and is held in place by a light spiral spring which is stretched around the leaves and hooked through the top and bottom eyes seen in the photograph. Oil is introduced into the reservoir as needed through a filler spout with a hinged top.

Knives of High Speed Steel

A NEW high speed steel that is said to combine hardness with toughness to an unusual degree has been developed by Henry Disston & Sons, Inc., of Philadelphia, for use in their knives. This steel, which is being used in the Disston A-1 machine knives, is intended for work that requires a cutting edge that will retain its sharpness and at the same time must stand up under hard service conditions.

This steel is being used also in the new Disston Lockweld inlaid knife, in which a section is inlaid in a carbon



Cross section of Disston inlaid high speed steel planer knife

steel back, as illustrated herewith. The inlaid piece is of the same thickness all the way back to the slots, instead of tapering, as is usually the case. As a result, the cutting face of the knife may be ground away in repeated sharpenings.

Car Compartment Lock

TERNSTEDT MANUFACTURING CO. has developed a compartment lock for installation on side door compartments of sport bodies, on the rear decks of roadsters and coupes and similar places. The bolt is of solid section of extruded bronze and the tumbler is also made of this material. A bronze spring of generous size facilitates operation. All parts are covered by a steel case riveted to the steel lock frame. The key when inserted in the lock serves as a handle as well as a means of operating the bolt, and is provided with a T-shaped grip to give a more comfortable and positive hold than the usual loop grip.

A Self-Adjusting Tire Flap

A RECENT development in tire accessories is a tire flap which has its ends arranged so they can slide over each other as the tire is being inflated. The flap can thus accommodate itself to the reduction in diameter brought about by the pressure in the tube forcing it into the rim cavity during the process of pumping up the tire.

The ends of the flap are held in position by two loops, the loop attached to one end surrounding the flap near the other end. Although these loops are loose enough to allow the ends to slide over each other freely, they serve to keep the overlapping portions of the flap in the correct centered position. The hole for the valve stem is located opposite the overlapping ends to allow maximum play.

The flap described has been under development by the Beaney Rubber Co., Inc., 117 West Forty-sixth Street, New York, for the past two years, and is said to be in use on thousands of pneumatic tired vehicles of all kinds at the present time. We are informed that two tire manufacturers, Kelly-Springfield and Lee, have made arangements to manufacture it on a royalty basis.

Besides being self-adjusting, the flap incorporates two other desirable features: Instead of being flat, like most other flaps, it is circular or arc-shaped, which enables it to adapt itself to the form of the inner tube when inflated, as well as to the inside form of the tire casing. It also has a rubber filler held within two plies of duck.

Special machinery has been developed for the manufacture of the flap, including a patented sewing machine for sewing the loops to the ends of the flap. A more complicated machine, which is said to be a great labor saver and to combine a number of functions, has also been perfected. This machine takes the flap material as it issues from the vulcanizer mold, measures it into the required flap lengths, cuts the material to this length, stamps the valve hole and skives the ends of the flap so as to avoid rough edges and thus permit the flap ends to slide readily over each other when the tire is being inflated. One size of this flap fits a wide range of tire sizes, which means a proportional reduction in the stocks carried by wholesalers and retailers. It is not the purpose of the Beaney Rubber Co., Inc., to supply these flaps, but rather to arrange with different tire manufacturers for manufacturing rights on a royalty basis.

Limited Regulation of Pedestrian Traffic Urged by N. H. T. A.

Unenforceable rules should not be passed, report says. Legislation, education needs, control signals, and bus braking among topics discussed.

REGULATION of pedestrian traffic, construction of express highways running around the outskirts of cities, opposition to the placing of advertising signs on traffic signal mountings, and increase of educational facilities for turning out highway and highway traffic engineers were among the recommendations urged at the annual meeting of the National Highway Traffic Association in New York, April 30.

The views of the Association as regards advertising on traffic signal mountings were telegraphed to Governor Smith of New York, who was urged to veto a bill just passed by the New York legislature permitting such use to be made of signal mountings.

The Association also went on record as favoring affiliation of the United States wtih the International Road Congress; as favoring retention of the red light for automobile tail lights as a recommended standard practice for various states; as favoring the establishment at the University of Michigan of a separate department in the engineering school devoted to problems of highway engineering, highway transport and highway traffic engineering; and as endorsing in general the conclusions reached by the recent National Conference on Street and Highway Safety.

Wide Range of Topics

While the meeting lasted only a single day, eleven papers dealing with various phases of the highway traffic problem were crowded into the two sessions and discussion covered a wide range of traffic topics. In addition to the topics mentioned, subjects treated included the trend of motor vehicle legislation, coordination of highway and rail transport, metropolitan traffic control, the future of the drive-it-yourself car, bottle-necks on highways, a survey of signal system types, but braking as related to highway safety, and aerial photography as an aid to traffic surveys.

A striking fact brought out by Russell Huffman, secretary, Motor Vehicle Conference Committee, in his talk on "Trends in Motor Vehicle Legislation," was that something like 3600 bills concerning automotive legislation are likely to be introduced into state legislatures next year when a large proportion of the state bodies will be in session. This marks a very considerable growth over the 2000 bills which were introduced in 1921 and illustrates the rapid growth in automotive legislative activities throughout the country.

Legislation affecting automobiles is not in the chaotic condition which might be expected, however, in view of the fact that it has a history of only 25 years and covers a period of extremely rapid development, Mr. Huffman pointed out. The more important current trends in motor vehicle legislation Mr. Huffman summarized as follows:

> Registration and license fees have gradually increased, particularly with reference to trucks and buses. There has been a marked tendency to increase the gasoline taxes.
>
> With reference to size, the tendency has been to decrease gradually the allowable width of buses and trucks. Likewise, there has been a growing tendency to reduce the gross weight limitation permitted buses and trucks.
>
> The tendency, with reference to speed regulations, has been to permit a much higher rate, and this has been particularly true during the past two years.
>
> Motor vehicles operating for hire, commonly called common carrier vehicles, have been more and more regulated by the state governments, and this tendency has developed quite rapidly during the past few years.
>
> State lawmakers are rapidly seeing the need of requiring all drivers of motor vehicles to be examined and licensed before being permitted to drive, and this has resulted in the enactment of driver's license and examination laws in many of the states.
>
> Certificate of Title Laws, designed to prevent the sale of, and aid in the recovery of, stolen motor vehicles are becoming more and more common.
>
> There has been much agitation during the past few years for compulsory automobile liability insurance, or, some method of fixing the owner's responsibility for accidents caused by his motor vehicle. This agitation, however, has not resulted, as yet, in the enactment of much legislation on this subject.
>
> Equipment of motor vehicles, such as lights and brakes, more especially headlights, has been receiving a great deal of attention at the hands of the legislators. Headlight regulation is still in a very unsatisfactory condition.
>
> There is a decided advancement toward uniform traffic laws and rules of the road, and while, apparently, still in a chaotic condition, they are gradually being unified through the process of educational work carried on by the motorists and their organizations.
>
> In the matter of einforcement, the tendency has been toward the application of much stricter penalties and more rigid enforcement of the laws, especially those directed toward the careless and intoxicated drivers.

"Money collected from motor vehicle license fees has been very largely allocated to highway purposes in recent years," Mr. Huffman said. "No other form of special tax revenue," he stated, "has been so closely kept to its purpose. Within the next few years, no doubt, changes will be made in the state laws so that every cent collected will be used for highway development."

Minimum Speed Limits

The tendency to urge as well as to permit higher average traffic speeds was discussed by Mr. Huffman as well as by other speakers. "One of the very recent developments with reference to speed regulation," Mr. Huffman said,

"is the tendency toward a minimum speed limit rather than a maximum limit. There is considerable agitation at the present time for minimum speed laws among some state highway officials and at least one state has enacted a law which prohibits operation of a motor vehicle on the highways which cannot maintain a certain minimum speed."

The possibilities of higher average traffic speeds also was a part of the discussion on "High Speed Highways Required for Economic Transportation" which was presented by E. P. Goodrich, consulting engineer, of New York City. "It costs money to go slow," Mr. Goodrich said. "We can afford to pay for express highways and they are worth while." Mr. Goodrich showed in considerable statistical detail what he considered a proper method of determining when an express highway might profitably be installed from an economic standpoint and when such installation would not be economically justified. In the course of his discussion he predicted that there would be one automobile for every two persons in the country sometime between 1935 and 1940 and that the total motor vehicle registration at that time would be about 60,000,000.

Limited Regulation

A certain amount of pedestrian regulation probably is desirable in the interests of safety, according to the preliminary report on "The Regulation of Pedestrian Traffic," which was presented by Lewis W. McIntyre, assistant professor of civil engineering, University of Pittsburgh. Whatever regulation there is, however, should be such as to limit personal liberty just as little as possible, Mr. McIntyre emphasized, and no regulations should be passed which cannot be enforced properly and continuously.

Approaching the subject from this standpoint, Mr. McIntyre came to the conclusion that relatively little actual pedestrian regulation is possible or advisable; that educational campaigns, intelligently conducted and carried on continuously and consistently will do more good than unenforcable regulations; and that pedestrian regulation is justifiable from the standpoint of safety, but probably not from the standpoint of speeding up traffic. It is Mr. McIntyre's opinion that traffic may be slowed down rather than speeded up by pedestrian control measures.

The conclusions in his committee progress report, Mr. McIntyre summed up as follows:

1. Regulations adopted should be as few in number as possible.
2. No regulation should be placed on the statute books which cannot or will not be completely and continually enforced.
3. Adequate traffic regulation is expensive. The community should balance the entire cost of sanely planning and sympathetically enforcing a given regulation against the benefits to be derived. If they are unwilling to pay the entire cost, a given regulation had better not be adopted.
4. The majority of contemporary opinion seems to favor some form of pedestrian regulation.
5. The regulation of pedestrians is not at present justified from either the standpoint of expediting pedestrian travel, or of expediting vehicular travel.
6. Since the pedestrian is involved in two-thirds of the traffic accidents involving injury or death, and pedestrian accidents are increasing disproportionately to other types of traffic accidents; since thirty-five per cent of all traffic fatalities are directly caused by some act of the pedestrian, it is imperative that some action be taken to reduce this pedestrian hazard.
7. Forty per cent of the traffic accidents for which the pedestrian is to blame are caused by children playing in the street; and two-thirds of all the child traffic fatalities occur between intersections. These are hazards against which any practical regulation would be almost entirely ineffective. Therefore, there should be carried on in the public schools everywhere a continuous campaign of safety education.
8. Fifty per cent of the traffic accidents for which the pedestrian is to blame are caused by jay-walking or carelessness on his part. Here again a continuous, intelligent, educational campaign seems likely to be the cheapest, most effective and least irritating measure to adopt, at least at present.
9. It seems wise to recommend that traffic authorities be empowered to select certain intersections which the accident record shows to be particularly hazardous to pedestrians and where the record of the causes of such accidents indicates that regulatory measures will be effective. Here they might be empowered by means of a blanket ordinance to put into effect such simple measures as obedience to the traffic signal, crossing only in the crosswalks, etc.; provided, that the number of intersections selected should be limited by the funds available for effective enforcement as indicated in the body of this report.
10. An engineer does not design a bridge without basic engineering data upon which to work. Neither can effective traffic regulation nor accident reduction measures be planned without adequate underlying data concerning causes of accidents. It is the first duty of those in charge of traffic control to secure such data. In its absence a community will only get changing, irritable, and ineffective measures.
11. Adequate enforcement of traffic regulations is not secured by short period drives for the enforcement of one particular regulation to the complete neglect of others. Those regulations which are in the discard for long periods of time become almost completely ineffective and the result of such procedure is to build up in the mind of the public a willingness to disobey all law if they "can get away with it."
12. Educational measures should be given more prominence and more money should be spent on them. They should be continuous instead of spasmodic. They should aim to tell the public the "why" of traffic regulatory measures. If a measure is designed to prevent accidents at a certain point, the educational campaign should show the public the accident figures on which the need for the measure is based. Each educational efforts must be unceasing.

The existence of a very large unfilled demand for highway and highway traffic engineers was the chief point stressed by Arthur H. Blanchard, president of the N.H.T.A. and professor of highway engineering and highway transport at the University of Michigan, in his talk on "Organizations for Traffic Planning in Municipalities." Mr. Blanchard pointed out that a number of cities now have a commission of some sort devoted to traffic control and that these commissions in most cases are unable to procure all of the technical assistance needed to perform their functions properly.

Special Courses Urged

Mr. Blanchard urged that various colleges and universities devote some specific efforts toward educating and preparing engineers along highway transport and traffic lines that sufficient technical men may be available to carry out the great road building plans which still are to go forward in this country and to solve the additional problems of traffic and transport which will come with the completion of new mileage in the future. Thus far, he pointed out, the University of Michigan has done practically the only extensive work along these lines.

The absolute necessity for coordinated traffic control in metropolitan areas was emphasized by H. M. Lewis, executive engineer, Regional Plan of New York and Its Environs, in his paper on "Metropolitan Traffic Control." The objective in all forms of control, he said, is to increase the average traffic speed, not to increase the maximum speed.

Physical changes in street and sidewalk structure constitute the indirect but final solution to a good many traffic problems, Mr. Lewis thinks, but he pointed out many ways in which the average traffic speed can be increased without physical reconstruction.

Mr. Lewis approves the idea of the Hoover conference that every city should have a permanent traffic commission, but feels that the head of the technical staff should the active head of the commission because of the probability of changes of personnel among the officials suggested to constitute the commission in the Hoover conference recommendation.

Drive-It-Yourself Idea Growing

Talking of the future drive-it-yourself car, Harold Greenwood, director of public relations, Yellow Manufacturing Sales Corp., stated that there are now something like 125,000 drive-it-yourself cars in use in the United States of which about 6000 are included in the Hertz system. The number of Hertz cars is expected to be doubled this year, Mr. Greenwood said. Such cars fill a real transportation need, Mr. Greenwood pointed out, and, operated and handled by responsible organizations, may be expected to develop very greatly in the future.

George H. Pride, president, Heavy Haulage Co., New York, showed how highway transportation is being used to help the railroads better perform their function, particularly in terminal haulage, and outlined some possibilities for further future developments along similar lines.

A progress report of the committee on traffic control signal systems at street intersections was presented by Col. I. C. Moller, assistant director and traffic engineer, Commissioners of the District of Columbia, Washington, D. C. This report contained a detailed discussion of the relative merits of various types of signals and various methods of positioning signals at street intersections.

"The High Cost of Bottlenecks on Highways" was illustrated clearly by a series of photographs and the accompanying talk presented by G. E. Hamlin, superintendent of repairs, Connecticut State Highway Department. Dangerous curves and bottleneck intersections often can be eliminated by relatively simple alterations in the landscape, Mr. Hamlin showed, the cost of the alteration being very small in most cases as compared to the savings in time and increased safety procured under the improved conditions.

Chas. F. Keale, Jr., chief engineer, Airmap Corp of America, talked on "Aerial Photography as an Aid in Highway Traffic Surveys."

"It is to the engineer that we must look for the solution of braking problems and to the commercial demands of competition for its inspiration. The braking problem is an engineering problem. No amount of legislation or regulation can solve these problems nor add to the earnestness and energy with which they are being solved." This was one of the important points brought out by M. C. Horine, International Motor Co., in his paper on "Highway Safety Promoted by Adequate Brakes on Motor Trucks and Buses."

Over-Regulation Dangers

After pointing out some of the major and minor improvements which have been made in commercial vehicle braking mechanisms, Mr. Horine went on to emphasize the dangers of over-regulation.

"Problems will still remain whose complete solution probably never will be reached." he said. "Differences of opinion will probably always exist as between the internal type of brake and the external, as between the fully inclosed type and the fully exposed type, as between the flexible band type of shoe and the rigid cast or forged type. Attempts to regulate design of brakes will retard rather than advance development, thereby lessening instead of increasing safety. The manufacturer may be depended upon, if only for the protection of his own selfish interests, to prosecute the further perfection of automotive brakes more vigorously unmolested than regulative pressure could ever make him do.

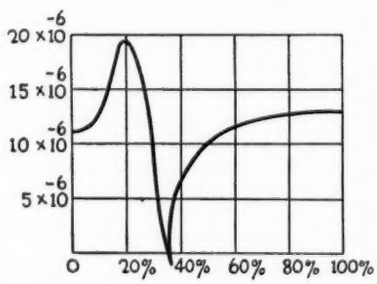
"Regulations, so far as brakes are concerned should be centered on the proper maintenance of brakes. Regardless of how perfectly the braking equipment of a motor vehicle may be constructed or how precisely adjusted when delivered to the purchaser, its future effectiveness will depend upon its further maintenance and adjustment. If the operation of a motor vehicle with burned-out or worn-out linings or broken brake-rods were made illegal as is the case in some states today, and then that law were enforced with anything like the vigor with which speed laws are, there would be real improvement in the ease and economy with which brake linings may be renewed. If faulty adjustment of brakes were scrutinized with half the care that faulty lighting equipment is given, all manufacturers would soon follow the lead of those who provide a means of quickly, positively and easily taking up for brake wear."

Arthur H. Blanchard was re-elected president of the N.H.T.A. at the close of the session and it was indicated that this organization was to take over and carry forward many of the activities which were begun by the now disbanded Hoover conference on street and highway safety. Other officers chosen were: Vice-president, David Beecroft, Roy D. Chapin, Chas. M. Upham, Jack F. Witt and Miller McClintock; secretary, Elmer Thompson; treasurer, George H. Pride.

Heat Expansion of Invar

IN connection with the use of Invar in aluminum alloy pistons, the accompanying graph of the heat expansion coefficients of nickel-iron alloys is of interest. Alloys of iron and nickel are used for the leading-in wires for electric incandescent lamps, in the case of which it is necessary to have a metal of substantially the same coefficient of heat expansion as glass.

The expansion curve of nickel-iron alloys herewith shown is due to Guillaume, whose researches were supplemented by the National Physical Laboratory of England. It will be seen that the expansion coefficient of these alloys varies with the nickel content in a most peculiar way. Up to about 20 per cent of nickel the coefficient increases; with a further increase in nickel content it decreases rapidly; at 36 per cent it is equal to zero and even becomes slightly negative, and with a further increase in nickel it becomes positive again, to wind up for pure nickel at about the same value as it started for pure iron.



Expansion coefficients of nickel-iron alloys

It appears that there is no diminution in the coefficient of expansion over that of pure iron until the nickel content is about 28 per cent, and a slight increase beyond this proportion has a very marked effect.

A FRENCH magneto manufacturer is now making use of vanadium steel for permanent magnets.

EDITORIAL

Doping 1926 Production

WITH a little juggling, statistics, it is well known, can be made to do almost any desired set of tricks. Now that the final figures on car production for the first quarter are out, some speculative amusement may be derived from putting the new data through a few of the regular acrobatics appropriate to such occasions.

It is easy to learn by subtraction and division that the total passenger car output for the first quarter this year exceeded that for the same period last year by 27.4 per cent and that it exceeded the first quarter of 1924 by 2.3 per cent.

Now suppose that we expect to continue ahead of last year by the same percentage in the last nine months as we did in the first three. If we did the total passenger car output for 1926 would be about 4,865,000.

But suppose, instead, that we base our estimates of the future on the relation between 1924 and 1926 and assume that we will maintain for the last nine months of the year the same increase over 1924 as in the first three. If we did, the total passenger car output for 1926 would be about 3,340,000, or nearly 480,000 less than in 1925.

Without final figures in for April, it appears as though the first of these estimates would be much too high and the latter much too low. The last nine months of this year scarcely can be expected to maintain a margin of 27.4 per cent in passenger car production over 1925 in view of the fact that some of the heaviest production months last year came along in the last quarter. But there is no reason to believe, in the light of current business analyses, that the volume for the last nine months this year will not go 20 per cent or more ahead of the last nine months of 1924.

Do Speed Tests Sell Cars?

IF some enterprising engineer could invent a device to measure quantitatively the value of any given publicity effort, the automotive industry would be able to save a lot of money every year. Since no one seems likely to perfect any such instrument in the near future, opinion will have to continue to be the efficiency-determining factor as in the past.

Opinions about the actual sales creating value of cross-country speed records differ, but the weight of opinion against attempts to set such records seems to be piling up higher every year. That some manufacturers deem them of sales value is evident from the fact that they still strive for the publicity which accrues from efforts to make faster time between given points over the open road. That a good many more don't think they are worth the cost is shown by the fact that many prominent makers have done practically nothing along these lines for several years.

Besides favorable publicity, sometimes unfavorable publicity accrues, as when injuries to drivers, pedestrians or property occur through accident. Such unfavorable publicity usually reacts against the automobile in general as well as against the individual car involved in the test. As a matter of fact, most newspapers today will give a good deal more prominence to untoward incidents of this kind than to a successful completion of the run. The cross-country speed demonstration undoubtedly has some publicity value in certain foreign markets, but is it not possible that as a constructive publicity getter in this country it has outlived its usefulness?

Street Cars and Buses

THERE has been little hesitation on the part of street railway interests in meeting the prophecies of bus optimists with the statement that buses can never replace electric lines. At present there are no certain signs of the passing of the street car, yet he is very bold who would predict its perpetuity in the face of the many and devastating changes which have taken place in this country.

In many small communities bus lines have successfully supplanted electric lines. In a number of large cities, such as New York, Chicago, London, and St. Louis, independent bus lines have profitably handled mass transportation. In some other large cities, however, bus lines have been tried to the exclusion of electrics and have failed to a large extent to provide satisfactory and profitable service.

Before reading into these failures proof of the continued ascendency of trolleys it might be well to consider the following items: With few exceptions, independent bus operating companies have not possessed the experience in mass transportation which is such a large factor in the success of street railway companies; operation and maintenance methods for buses are still in their infancy; previous experiments have been made with relatively small buses whereas buses can be built, and, in fact, have been built, to carry as many passengers on a single deck as the average street car; when operated in conjunction with electric lines bus lines have almost invariably been confined to feeder and supplementary work on lines without enough patronage to support electric lines.

Experience of a number of operating companies indicates that, given favorable routes and efficient operation, buses can successfully compete with electric lines in large cities.

AUTOMOTIVE NEWS SECTION INDUSTRIES

Philadelphia, Pennsylvania

Thursday, May 6, 1926

Improved Retail Car Sales Keep Factory Output High

PHILADELPHIA, May 6—Production activities in most of the larger automobile plants is continuing steady, with indications that operations will continue at much this rate through May. Some plants, notably Ford, are operating on a considerably curtailed schedule, Ford output ranging less than the weekly retail sales rate which is approximating 25,000 to 30,000. This is against a rate of approximately 9000 daily at this time last year.

New production and sales records are continuing to be set by several companies. Most other companies are maintaining schedules which equal or slightly exceed those of the same period last year. In some cases, however, there is a sharp reduction in operations which is declared due to top-heavy manufacturing operations in the first quarter and failure of retail movement to develop at anticipated rate.

Better weather in the latter part of the month improved retail conditions in many parts of the country, but the buying movement generally continues to be retarded. There is an improved feeling among the retail trade which with good weather in May should result in a sharp upturn in deliveries. By the month end stocks of new cars in dealers' hands should be practically cleared away, factory officials assert, leaving the way clear for renewed large scale manufacturing.

Failure of a greatly improved retail buying rate may result in the temporary closing of at least one important Detroit plant; a happening which may be seized upon to instance the difficulties of the industry generally. In truth, however, this closing, if occurring, will indicate the difficulties of this one company only, and in a measure will emphasize the prosperous condition of most others.

N.A.C.C. and Dealers Set Meeting Topics

DETROIT, May 6—Plans for the new series of dealer sales meetings to begin in the fall, were gone over at a joint meeting Tuesday between representatives of the National Automobile Chamber of Commerce and the National Automobile Dealers Association.

Subjects to be covered this year, the second that work of this character has been carried on, include retail sales plans; automobile dealer budgets; automobile time payments; metropolitan dealer control, and, "make a sale get a sale."

The N. A. C. C. was represented at the meeting by F. J. Haynes, Dodge Brothers who presided; H. H. Rice, General Motors; C. D. Hastings, Hupp; R. P. Aull, Overland; M. L. Pulcher, Federal, and Alfred Reeves, general manager. Dealer representatives were C. B. Warren, president of the N. A. D. A. and Nash distributor, New York; C. E. Gambill, past president and Hupp distributor, Chicago; F. W. A. Vesper, Buick distributor, St. Louis, and C. A. Vane, general manager.

April With 449,173 Near Output Record

DETROIT, May 6—Cars and trucks produced in the United States and Canada in April totaled 449,173 according to National Automobile Chamber of Commerce shipping reports, this figure being within 504 units of the March output, which was the second largest in the history of the industry.

For the first four months total production is 1,590,074 or 18 per cent over the same period last year. Reports to directors indicated that with better spring weather the selling season was well under way with every indication that sales to consumers in the first half of the year will be substantially greater than in the same period last year.

May Base Canadian Duty On Retail Sales Price

DETROIT, May 6—The belief now generally held by automobile manufacturers is that the new Canadian tariff will be modified in the interests of production across the border. This impression is confirmed by unofficial advices from Ottawa that while the tariff with reductions in the general rate on smaller cars from 35 to 20 per cent will pass Parliament, by customs regulation the duty will be collected on the retail instead of the wholesale price as has been the practice.

Contrary to first reports, the budget does not specify which price the duty shall be based upon. If the retail price is chosen the actual reduction would be less than 8 per cent instead of 15. By this means the manufacturer would still be protected while the clamor of the consumer for lower prices would be in a measure satisfied. The production situation is practically unchanged.

SLOAN A "BULL" ON 1926 OUTLOOK

SYRACUSE, May 4—Alfred P. Sloan, Jr., president of General Motors Corp., is highly optimistic at the automobile trade prospects for 1926, he told General Motors dealers from northern cities of the state, at a meeting here.

"I am a 'bull' on the year 1926, despite the adverse and gloomy rumors which have been current in many quarters, especially since the recent liquidation in Wall Street," Mr. Sloan declared.

"The automobile industry is directly dependent upon other branches of industry, and fluctuates with them. The first half of the year 1926 will undoubtedly be good. It has held firm thus far and I can see no reason for a change before July 1.

"I can see no reason why the business of the country should not continue on the same plane after July 1, as it has until now," he said. "The recent liquidation was not due to any economic condition. The market was simply too high priced and many issues were selling for much more than they were actually worth."

Peugeot Interests Form American Corporation

NEW YORK, May 5—The American interests of the Peugeot Automobile Co. will be represented by the Omnium Franco-American Corp., which is now being formed and of which the chief incorporators will be Lucien Rosengart, vice-president of the Peugeot Automobile Co., and Yves De Villers of Yves De Villers & Co., Inc., 29 West 57th St., New York City.

Flint Motor Co. of New York, which has been showing small Peugeot car in Broadway showroom, is now selling the Peugeot car and has received seven orders. Floors in the Flint branch building, Long Island City, are reported being vacated to make room for assembling the Peugeot.

Dodge Retail Sales Pass 10,000 Week Mark

DETROIT, May 6—Dodge Brothers retail sales for the week ended May 1 were 10,126, the first time in the company's history that the retail rate has exceeded 10,000 in a single week. The new figure represents a gain of 4374 or 76 per cent over the corresponding week last year. Shipments from the factory to dealers during this week were 8600 or 1526 less than actual deliveries.

Reeves Says 1926 Good as Any Year

Declares Record Output Needed to Meet Sales—Bus Market Large

DETROIT, May 6—"Spring and summer automobile trade this year will equal any similar period in the history of the business, Alfred Reeves, general manager of the National Automobile Chamber of Commerce, said here this week. "Even as early as April 15," he said, "some of the popular lines of cars were unable to meet demand in eastern markets." Mr. Reeves continued:

"During the early part of the year the factories have had large production schedules so that dealers might be prepared for spring rush. When you divide the total of this output by 48,000 dealers and take into account the fact that there is a certain amount of winter selling, the actual ready supplies available are small.

"Having provided for normal spring demand most factories are manufacturing in line with orders from the field. It may be that not all quarters of the year will be as heavy relatively as the first quarter since that would lead to a production for the year of around 6,000,000 vehicles which no one anticipates. It is generally felt, however, that business will be as good as in 1925 and that year was a very healthy one in the motor vehicle trade.

"There are still 40 per cent of farm families which do not own automobiles and while economic conditions have prevented ownership in the past, the steadily improved agricultural situation in the last two or three years warrants giving special attention to this field in 1926. Mr. Reeves said.

"Motor truck and bus makers expect this will be one of the best years in commercial vehicle history," said Mr. Reeves. "Not only are independent truck and bus companies operating successfully in fields which have no rail service or inadequate rail service, but also railroad lines are rapidly increasing their motor equipment," he declared.

Car Life Eight Years "Facts and Figures" Shows

NEW YORK, May 5—The 1926 edition of "Facts and Figures of the Automobile Industry," published by the National Automobile Chamber of Commerce, came off the press this week. The 96 pages include all the features of previous editions brought up to date and several new ones. Automobile registration by continents is shown for the first time.

Among the new tables are those showing city registrations of motor vehicles in different classes. The table showing seasonal valuation in production of cars and trucks, by which the monthly percentage of deviation from the average month may be ascertained, has not been presented in just this way for some time.

The growth of the annual replacement market is shown, together with the cumulative and actual number of motor vehicles scrapped since 1913. A particularly interesting graph shows that the average life of motor vehicles has now increased to eight years, and that between 1909 and 1914 it was five years.

See British Strike Hitting Car Exports

NEW YORK, May 6—If the British general strike continues for a considerable period it is expected to have a marked adverse effect on the export division of the American automobile industry.

Temporarily the cessation of rail and rapid transit traffic may increase British purchases of passenger and commercial cars; but it is believed that the general strike, if settlement is not made soon, will eventually decrease the buying power of the whole country and that delivery difficulties will grow worse as the strike goes along.

F. R. Henderson, of Henderson, Helm & Co., Inc., said today he saw no reason for anxiety here with reference to the general strike's possible affect on crude rubber shipments.

Mr. Henderson said there was plenty of rubber in the United States at present. On April first, 61,822 tons were on hand and 43,567 tons were afloat. The tonnage afloat was all coming direct from the East. Recently an average of only about 600 or 700 tons a month had been received from England. If British ships were tied up in the Far East, there should be plenty of Dutch, German and American boats to carry rubber to American ports.

New York Declines New Palmetto License

NEW YORK, May 5—James A. Beha, state superintendent of insurance, has declined to grant the application of the Palmetto Fire Insurance Co., of Sumter, S. C., for a renewal of its license to do business in New York State. This license expired on April 30.

Palmetto obtained a Federal Court injunction restraining the superintendent from cancelling its license before its expiration and the decision in this case is pending.

An order has been secured by Palmetto in Albany County Supreme Court for hearing Saturday to show cause why preemptory mandamus should not be issued to Beha commanding him to renew Palmetto license.

Overland 6 Coupe

DETROIT, May 5—A 2-passenger coupe, listing at $895, has been added to the Overland "93" 6-cylinder line by Willys-Overland, Inc. Finish and upholstery is the same as on the standard sedan.

Business in Brief

Written exclusively for AUTOMOTIVE INDUSTRIES *by the Guaranty Trust Co., second largest bank in America.*

NEW YORK, May 6—Industry and trade continued at fairly high levels last week, although some branches of business reported that activity was somewhat lower than a year ago. Industrial production made a relatively better showing than wholesale or retail distribution. Weather conditions continued to be a dominant factor, many reports emphasizing the adverse effects of the late spring. The level of commodity prices declined further.

CAR LOADINGS

Car loadings continued to increase during the week ended April 24, when the total was 973,304, as against 964,935 in the preceding week and 961,186 in the corresponding period last year. Since the beginning of 1926 the number of loadings has been 15,781,435, which compares with 15,509,239 a year ago.

LIFE INSURANCE SALES

Sales of ordinary life insurance in March by companies representing 80 per cent of the total insurance of legal reserve companies in the United States amounted to $790,669,000, or 12 per cent more than the total for March, 1925. Sales for the first quarter of the year were 7 per cent larger than those of a year ago.

BANK STATEMENTS

Bank debits to individual accounts reported to the Federal Reserve Board for the week ended April 28 were 2 per cent below the total for the preceding week, but 20 per cent above that of a year ago.

FISHER'S INDEX

Fisher's index of wholesale commodity prices stood at 150.2 last week, as against 151.2 in the preceding week and 151.8 four weeks earlier.

FEDERAL RESERVE REPORT

Bills and securities held by the Federal Reserve Banks increased $33,200,000 during the week ended April 28, with gains of $64,000,000 in discounts and $200,000 in Government securities partially offset by a decline of $30,500,000 in open market purchases. Note circulation decreased $300,000, while deposits rose $22,400,000 and reserves $3,600,000. The reserve ratio declined from 76.0 to 75.7 per cent.

Loans of reporting member banks declined $26,000,000 during the week ended April 21, the principal change being a decrease of $33,000,000 in "all other" (mainly commercial loans. Investments declined $21,000,000, borrowings from Federal Reserve Banks $140,000,000 and net demand deposits $84,000,000, while time deposits increased $41,000,000.

MONEY

Money rates continued easy last week. The range for call loans was from 3 to 4½ per cent, as against 3 to 4¼ per cent a week earlier, and for time loans 4 per cent as against 4 to 4¼ per cent. Commercial paper rates were unchanged at 4 to 4½ per cent.

New Chrysler Small Six Line Has Price Range $1075—$1295

Model is on 109 Inch Wheelbase and Offers Five Body Styles —Bullet Type Headlights, Hydraulic Four Wheel Brakes are Features

DETROIT, May 4—A lighter, smaller and lower priced six-cylinder car has been added to the present line of models manufactured by the Chrysler Corp. The new car, which is designated as the "60," has a 3 x 4¼ in., L-head engine developing 54 brake horsepower and a wheelbase of 109 in. In general lines and design it follows previous Chrysler cars very closely. Bullet type headlights are standard equipment.

Five body styles ranging in price from $1075 to $1295 are offered on the new chassis. The general appearance of the "60" bodies is very similar to that of the original "70" although the "60" colors are new and distinctive. Prices on the various body models follow:

Touring	$1075
Roadster	1145
Coupe	1165
Coach	1195
Sedan	1295
Chassis	915

There are no special features of design in the new Model 60 which stand out beyond those incorporated in other Chrysler cars. Full pressure engine lubrication is provided through the seven-bearing crankshaft and both an oil filter and an air cleaner are fitted. Pistons are of a special alloy. Cooling water is circulated through the jackets and tubular radiator by a centrifugal pump mounted on the front of the cylinder block and driven by the fan belt. A two unit, six-volt electrical system is employed with starter engagement by Bendix drive. Both single plate clutch and the transmission are in unit with the engine with the drive to the rear axle through two universal joints and a two inch propeller shaft.

The rear axle is of the semi-floating type with a 4.9 to 1 reduction for the closed cars and a 4.7 to 1 ratio for the open models. Rear axle torque and propulsion are taken through the springs. An I-section front axle with ball thrust bearings at the knuckles is employed and the steering gear is a Ross of the semi-reversible cam and lever type. Lockheed hydraulic, four-wheel brakes contracting on 14 in. diameter drums are regular equipment. Semi-elliptic springs provided with shock-absorbers all around and on all models are used. Tires are 30 x 5.25 in.

New British Truck Duty Becomes Effective May 1

WASHINGTON, May 6—Effective May 1, a duty of 33 1/3 per cent ad valorem was imposed upon commercial motor vehicles imported into the United Kingdom according to a cablegram received in the Department of Commerce this week from Acting Commercial Attache Hugh D. Butler at London.

Car & Foundry May Buy American Body

NEW YORK, May 3—It is reported that the American Car & Foundry Motors Co. may obtain control of the American Motor Body Corp. It is understood that the American Motor Corp. some time ago made an offer of sale to the American Car & Foundry Motors Co. but that there have been no further negotiations.

The four chief stockholders of the American Motor Body Corp. are Blair & Co., Inc., Chase National Bank, American Car Co. and Hale & Kilburn Co.

The corporation was formed in 1923 to acquire the assets of the former American Motor Body Co., which was organized in 1920 to acquire the property of Hale & Kilburn Co., street car equipment manufacturer, and the Wadsworth Mfg. Co. The former plant of the American Motor Body Corp. was sold last year to the Chrysler Corp.

The American Motor Body Corp. has exclusive manufacturing rights on a special six wheel bus chassis and buses of this type are understood to have had a good sale. Manufacturing is done through the Six-Wheel Drive Co., a subsidiary, and the Philadelphia plant is used for producing the bus chassis.

Open Chevrolet Branch

HOUSTON, TEXAS, May 3—The branch factory of the Chevrolet Motor Co. will be opened here in the next few weeks it was announced by C. E. O'Meara, who is to be manager of the plant. The offices will be located in the Electrical Annex building. Some fifty men will be employed at the branch plant. In addition to Mr. O'Meara as sales manager and manager of the plant it is announced L. P. Randall will be assistant manager.

Olds Service Men Meet

SAN FRANCISCO, May 3—Service supervisors for virtually all of California attended a meeting at the end of April called by F. G. W. Sudrow, Pacific zone manager for the Olds Motor Works at the new zone office headquarters in San Francisco. Service problems of distributors and dealers were discussed, and a new program of sales effort outlined for this territory. At the meeting announcement was made that Oldsmobile sales in this section had been increasing steadily for the first three months of 1926 and that a new high record probably would be reached in April.

Say Internal Competition Injurious to Bus Lines

PINEHURST, N. C., May 6—Regulation of commercial motor transportation in the interest of the public is commended in a preliminary report to the American Bankers Association in its executive council here. Commercial motor lines compete injuriously with the railroads and among themselves, and therefore should be regulated.

As now conducted, the report declares, there is a considerable waste in commercial motor transportation because the supply exceeds the demand. Limitation of motor transportation companies would reduce vehicles on highways, reduce wear on the roads and by eliminating destructive competition put commercial motor transportation on a firmer basis.

New Haven R. R. Bus Lines Run on Train Schedules

NEW YORK, May 3—The extent to which railroads have become committed to the auxiliary use of buses is illustrated by the fact that the New England Transportation Co., a subsidiary of the New York, New Haven & Hartford R. R., has issued a timetable covering the operation of 125 buses over nearly 1000 miles of area.

Buses are used by the N. Y. N. H. & H. R. R. as substitutes for branch line trains. They are also used extensively as paralleling present rail service. The addresses of 20 bus terminals are given in the timetable, together with the schedules of five affiliated motor coach companies.

Rolls-Royce Sales High

NEW YORK, May 3—Henry J. Fuller, president of Rolls-Royce Co. of America, returning from abroad, said that sales in the United States were running about 25 per cent ahead of this time last year, with prospects very favorable.

"England is not disturbed with traffic problems," he said, "because she is building concrete roads across fields that will carry from 10 to 12 cars abreast. These roads take the shortest route from city to city and they act as a great stimulus to the automobile industry."

Ford of Canada Gains

FORD CITY, ONT., May 4—Production by Ford Motor Co. of Canada, Ltd., in the first quarter of 1926 totaled 29,706 cars and trucks as against 23,424 in the first quarter of 1925. About 50 per cent of this output was for export markets.

Output in the closing five months of 1925, the start of the company's fiscal year, was 26,885 cars and trucks, and 2298 tractors.

New Graham Chassis is Priced at $885

Deliveries on Model Now Going Forward Include Eight Body Types

DETROIT, May 3—Deliveries are being made now to dealers of a new one-ton Graham Brothers truck chassis known as the "G-Boy" and listing at $885. This model incorporates several improvements on the 130 in. "MM" chassis, and the new "G-Boy" truck together with the regular 1½-ton model will complete the Graham Brothers truck line.

Economies in manufacture due to improved assembly facilities are responsible for the new low price. Certain improvements in the chassis to give better balance and equal load distribution have resulted in the new one-ton truck having better riding qualities, lighter weight, easier handling and more rapid acceleration. Eight different styles ranging from stake bodies to panel delivery bodies will be offered while included in the standard equipment with the chassis are front and rear fenders, full length running boards and shields, front bumper, and tire carrier under rear of frame.

The Dodge Brothers engine with the special heavy type transmission forming a unit powerplant and the front and rear axles are the same as those employed in the other models. By moving the location of the front axle approximately 4 in. forward and rearrangements of the weights, it has been possible to obtain the better operating qualities.

While the wheelbase is now 126 in. there have been no changes in the loading capacity or size of the driver's compartment. Higher speeds, better riding and lower appearance are obtained by the adoption of 30 by 5 in. tires. The latter are mounted on six spoke cast steel wheels with the spare rim supported in a special carrier under the frame at the rear. Minor changes have also been made in the chassis frame and the springs. The standard gear ratio of 5.10 to 1 and the double internal brakes are retained.

New Wrapping Approved

WASHINGTON, May 6—An absolutely waterproof type of paper, which it is expected will greatly benefit automotive shippers of parts and accessories, has been tested by and received the sanction of the Bureau of Standards.

This paper, the Bureau announces, is known as "duplex asphalted kraft" and consists of two sheets of strong kraft wrapping paper, cemented together with a layer of asphaltum which is the waterproofing medium. The product, the Bureau explained, has sufficient strength to withstand the many sudden shocks and strains incident to overseas transportation and is water-resistant "to almost an unbelievable extent."

PAINTINGS SHOWN AMID CAR SETTING

SAN FRANCISCO, May 3—A unique and successful advertising "stunt" was presented here during the last week of April and the first week of May when the first exhibition of the San Francisco Society of Women Artists was held in the show rooms of Don Lee, Inc., Cadillac distributor for California. More than 250 paintings were hung, and thousands of persons passed through the sales rooms, where all models of Cadillacs were on display. Arrangements have been completed to have this organization of women artists display their paintings in the Lee building annually. Many of the members and patrons of the society are prominent in San Francisco society circles, and the newspapers gave the show considerable space, with consequent favorable publicity for the Cadillac distributor.

Wills Prices Revised Through Entire Line

MARYSVILLE, MICH., May 3—In addition to the price cuts on the 6-cylinder models announced by Wills Ste. Claire, reductions also have been made on all other models except the 7-passenger 8-cylinder phaeton which has been increased $15 to $2900, and the 8-cylinder cabriolet roadster and 5-passenger brougham which are unaffected. An enclosed 7-passenger limousine has been added to the W-6 6-cylinder chassis. This model will sell at $3085. Following is a list of new and old prices.

Model	New Price	Old Price
"B-68"		
Phaeton	$2900	$2885
Sedan, 5-p.	3100	3885
Sedan, 7-p.	3300	3900
"C-68"		
Roadster	$2900	$3300
Gray Goose Trav.	2900	3300
Sedan	3200	4085
"D-68"		
Gray Goose Trav.	$3000	$3300
Roadster	3000	3300
Cab. Roadster	3950	3950
Std. 5-p. Sedan	3450	3950
7-p. Sedan	3550	4050
Brougham	4050	4050
Spec. Sedan	3450	4050
Enc. Dr. Limousine	3650	4150
"W-6"		
Phaeton	$2600	$2800
Roadster	2600	2800
Gray Goose Trav.	2600	2800
Sedan	2800	3185
Vogue Sedan	2900	3400
Sedan	3000	3285
Limousine (Enc.)	3085	....

Levene Takes Over Vim

PHILADELPHIA, May 4—The entire assets of the Vim Motor Truck Co. have been taken over by the Levene Motor Co. of this city, which will continue complete service and parts supplies on all models in owners' hands.

Ruckstell Denies Ford Change Likely

Asserts Sharp Reduction on Special Axles Designed to Increase Sales

NEW YORK, May 3—Ruckstell Sales & Mfg. Co. announces price reductions on Ruckstell dual control axles for Ford cars and trucks.

The price of the passenger axle, installed and delivered, has been reduced from $70.00 to $49.80, and the price of the truck axle, installed and delivered, has been cut from $112 to $79.80. The new price of the Ford truck chassis, Ruckstell equipped, is $444.80 f.o.b., Detroit.

At the Ruckstell offices here it was denied that the new prices had any connection with the frequent reports that Ford was to bring out an improved transmission which would cut into the market for auxiliary transmissions for Ford vehicles. It was said that the Ruckstell reductions were designed to increase sales volume and to place the average buyer in a position to afford Ruckstell equipped Ford cars and trucks.

It was pointed out that the Ruckstell policy had always been to assist the dealer in increasing his car and truck sales. It was asserted that the old price of Ford cars equipped with four-speed planetary transmission was close to that of other cars and that the new Ruckstell prices would bring the cost lower than anything else in the field of cars carrying four-speed planetary equipment.

Charcoal Fuel Process is Reported Perfected

WASHINGTON, May 6—A process for the operation of motor vehicles by charcoal fuel is claimed to have been perfected by a Swedish company, according to a report to the Department of Commerce from Commercial Attache Klath at Stockholm. The original generators of the fuel were designed for hardwood charcoal, for which there is general demand in Sweden. The most recently designed generators, however, have been fitted with a rotative purifier which is claimed by the company to remove the tar contained in coniferous wood charcoal and to make the gas fit for use as motor fuel.

This type of generator has been fitted on a number of tractors and trucks and is said to have been successfully operated.

New Diana Town Car

ST. LOUIS, May 1—A new town car model with optional color combinations, upholstery and wheel equipment is now being offered on the Diana light straight-eight chassis. The body which is essentially a custom built job, seats five with an enclosed landau type compartment for the passengers and an open driver's seat.

Men of the Industry and What They Are Doing

Many Promotions Made in Goodyear Personnel

Changes in the personnel of Goodyear Tire & Rubber Co., following the elevation of P. W. Litchfield to the presidency, show Clifton Slusser as vice-president and factory manager; William Stephens, Akron factory superintendent; E. H. Koken, superintendent of Goodyear of Canada; Harry Blythe, superintendent of Goodyear of California, and C. E. Falor, superintendent of the Marathon Rubber Co.

Changes in the engineering department show W. C. State as consulting engineer; B. Darrow in charge of developments, C. C. Grant, head of the engineering department; L. E. Clapp, head of the planning department, and W. L. Hain in charge of interplant relations. E. J. Thomas is at the head of personnel.

Paul Pleiss Returns

Paul Pleiss, secretary of the Edward G. Budd Mfg. Co., Philadelphia, who has just returned from Germany, is optimistic regarding the future of automobile business in that country. He finds that the people and Government are getting away from the old ideas of motor cars as luxuries, and that a big market will be established if prices can be brought down sufficiently.

Mr. Pleiss will sail again for Germany in about two weeks to be concerned further with the affairs of the Ambi-Budd Presswerkes, G. m. b. H.

Newmark Edits Book

J. H. Newmark, head of J. H. Newmark, Inc., New York advertising agency has edited a book, "Automobile Salesmanship," comprising ten lessons, together with a handbook of mechanical and semi-technical information. The course is divided into ten main subjects and 49 departments, and is presented in two volumes. It will be marketed by the Automobile Business Bureau, Fisk Building, New York.

Lett Assigned to Africa

T. M. Lett, Jr., formerly assistant manager of the Bombay zone office for General Motors Export Co., has become regional assistant for Africa.

When he joined General Motors in 1926, with the Buick Motor Co., Atlanta branch, he had spent four years in the automobile business with his father and brother. After naval service during the World War, he was associated with the Buick Motor Co., of New York for six months before he joined General Motors Export Co. in 1920. In October of that year he was sent to India as technical advisor of the Colombo branch, covering India, Burma and Ceylon. Returning from India late in 1921, he served as assistant to R. G. Lewis, technical advisor, and then as assistant to W. T. Whalen, manager of the Far Eastern Division.

JOURNALISTS CLOSE DETROIT SOJOURN

The Detroit motor car manufacturing fraternity bade farewell to the group of Latin-American journalists who are touring the American industry, at a banquet brilliant in its appointments at the Book-Cadillac Hotel, Tuesday. C. F. Kettering, vice-president of General Motors Corp., delivered the principal address. Percy Owen, director of foreign sales for Dodge Brothers, Inc., was toastmaster.

Arriving in Detroit last Friday, the party of journalists were entertained at a series of functions and factory visits designed to acquaint them fully with the business of manufacturing and selling automobiles. Leaving here the party goes to Pontiac and Flint to visit the plants there and then will go to the Studebaker factories at South Bend.

Bjorn Retires From Nash

The retirement from active duty of John Bjorn, general superintendent, Nash Motors Co., after a connection lasting 36 years with the concern and its predecessors, was made an event in which Charles W. Nash and the other principal officials took a leading part. A dinner was given in honor of Mr. Bjorn and a substantial testimonial tendered him. He has shared in the unusual prosperity of the Nash industries and intends to rest on the fruits of his labors.

Mr. Bjorn was born in Sweden, April 12, 1861, and followed the trade of a mechanic, later becoming a locomotive engineer. In 1889 he emigrated to America, and on April 27, 1890, applied to the late Thomas B. Jeffery at Kenosha for a job in his bicycle works. He was put to work as a machinist and earned promotion to executive positions in the shops. When Mr. Nash purchased the Jeffery plant in 1916, Mr. Bjorn was given due recognition and soon was made general superintendent.

H. L. Bailey Joins Flint

W. A. Sellon, manager of the Boston Flint Co. for the past year, has resigned to take effect June 1 and will return to New York to enter business there. H. L. Bailey, well known from the early days, when he was a competitor in the Vanderbilt races, has been named as the new manager of the branch.

Meder Sells Interest

Charles Meder has sold his interest in the Witherbee Storage Battery Co., 2 West 61st Street, of which he was vice-president and treasurer, and is now president of the United Battery & Separator Corp., 1834 Broadway, manufacturer of fir and cedar battery separators.

Alloy Officers Continue —Coulby Heads Directors

George H. Charles, was reelected president of the United Alloy Steel Corp., at a meeting of the board of directors held last week in Cleveland.

Harry Coulby, Cleveland, was elected to succeed Ed. A. Langenbach as chairman of the board. Mr. Langenbach resigned at the annual meeting of the board held in New York, after more than 30 years activity connected with the United Alloy and the Berger Manufacturing Co. in executive capacities.

Other officers returned to their posts were Charles W. Kreig, vice-president, secretary and treasurer; L. G. Pritz, vice-president and general manager; J. Paul Mosley, assistant secretary and Homer Geisen, assistant treasurer. All are Canton men. Members of the executive board of which Coulby is chairman, are C. S. Eaton and J. O. Eaton, of Cleveland.

Markee With Pierce-Arrow

Frederick D. Markee has been appointed New England district representative for the Pierce-Arrow Motor Car Co. and will cover the territory with headquarters at Boston.

J. E. Walker Honored

J. E. Walker, of the H. H. Franklin Mfg. Co., has been elected president of the Purchasing Agents of Syracuse and Central New York. Other officers are: C. L. Marsters, Norwich Pharmacial Co., Norwich, first vice-president; D. C. Park, Smith & Caffrey, second vice-president; H. G. Dunn, Brown, Lipe Chapin Co., treasurer; W. R. Hopton, The Hopton Co., secretary. Directors are N. L. A. Forster, W. C. Allen, J. E. Waring and D. Collin; and national directors A. A. Webb and H. W. Mitchell.

Mitchell on Bank Board

W. Ladyard Mitchell, vice-president and general manager of the Chrysler Corp., has been elected a director of the Guardian Trust Co., Detroit.

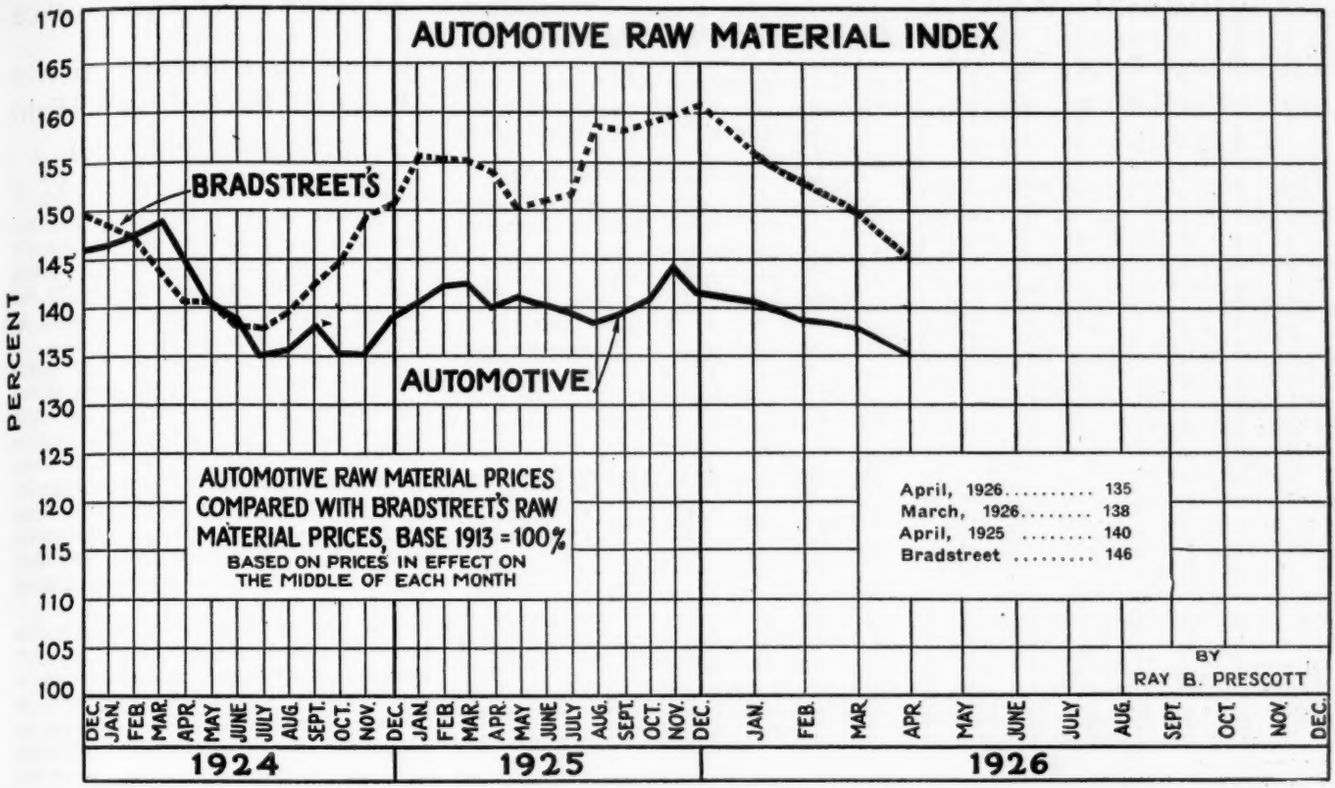
E. L. Cord on Coast

E. L. Cord, president of the Auburn Automobile Co. is touring the Pacific Coast visiting representatives of Auburn and is also calling on bankers and others to find out the trend in that territory. Mr. Cord expects to spend at least four weeks on the coast.

W. C. Williams Promoted

W. C. Williams, Jr., manager of production at the Chevrolet factory branch in Oakland, has been promoted to be supervisor of buildings, equipment and production with the parent company at Detroit.

April Raw Material Index Off Three Points



U. S. Survey Shows Tire Stocks Normal

WASHINGTON, May 4—Average stocks of automobile casings in dealers hands on April 1, are found to be slightly greater than a year ago, and stocks of inner tubes are found considerably greater in the fourth semi-annual survey of dealer tire stocks made by the Rubber Division of the Department of Commerce. Average of all casings per dealer was 3.9 which compares with 62.2 in 1925. Average of inner tubes was 119.6 against 102.1. Stocks of balloon casings were 21.9 as against 14.8 but this increase is compensated for by decrease in stocks of other casings. Solid and cushion tire stocks were 26.9 as against 20.1.

An interesting feature of the report is a summary showing number of makes handled per dealer. Dealers handling one make decreased from 43.2 to 42 per cent; those handling two makes increased from 36.3 to 37.5. Percentages of those handling three or more makes remain practically unchanged.

Wide Divergence Shown in Airplane Maker Bids

WASHINGTON, May 5—A wide variety of prices is shown by submitted bids of five airplane manufacturers, bidding on Post Office mail planes.

The lowest bid was that of the Aerial Service Corp., Hammondsport, N. Y., of $11,750, compared with the highest of Sikorsky Mfg. Corp., New York City, with a bid of $16,000 each. The other three bidders, and their bids were: The Douglas Co., Santa Monica, Cal., $13,500; G. Elias & Brothers, Buffalo, $13,500, and the Curtiss Aeroplane & Motor Co., Buffalo, $14,000.

Murray Creditors Get New Reorganization Plan

DETROIT, May 5—Creditors of Murray Body Corp. will be asked within a few days to consider a proposal of settlement which was agreed upon at a joint meeting of the reorganization committee and the merchandise creditors committee this week. Under the plan claims of all creditors, including banks, note holders and merchandisers, will be treated alike.

During the several months that the affairs of Murray Body have been handled by Guardian Trust Co., receivers, new records of production and earnings have been established. Shipments of bodies from the main plants for the first quarter totaled 37,626. Shipments of fenders and other metal parts from the J. W. Murray stamping division showed a substantial increase over any previous quarter.

Net profits for the quarter after deduction of all charges but before Federal taxes were in excess of $600,000.

Fageol Low Bidder

DETROIT, May 6—Fageol Motor Coach Co. was awarded contract for 50 double-deck, gas-electric motor coaches by the Detroit City Council, the bid being $12,050 per vehicle without tires.

Tire Shipments Grow; Sales Value Lower

NEW YORK, May 6—According to statistics compiled by the Rubber Association of America, Inc., covering about 92 per cent of total crude rubber consumption and 95 per cent of total crude rubber inventory in the United States, in the first quarter of 1926, 73,081 tons of crude rubber were used in the manufacture of tires and tire sundries, and the total sales value of shipments was $180,833,000.

This compares with 65,084 tons and $204,095,000 in the last quarter of 1925, and with 71,343 tons and $150,257,000 in the first quarter last year.

In the first quarter this year, 67,574 tons were used in the manufacture of automobile pneumatic casings and tubes, compared with 60,098 in the previous quarter and 65,819, first quarter of 1925.

The increase in the use of crude for automobile pneumatic casings and tubes in the first quarter this year over the previous quarter was 7476 tons, or about 10 per cent, while production of reclaimed rubber increased 5252 tons or 13 per cent.

Inventories of reclaimed rubber were 13,377 tons, shipments 30,013 tons and consumption 26,908 tons in the first quarter this year, compared with inventories of 8827 tons, shipments of 26,403 tons and consumption of 23,715 tons in the previous quarter.

Crude rubber arrivals were 116,469 tons in the first quarter, compared with 111,689 in the previous quarter.

Steel Market Shows Lightened Activity

Fair Routine Buying by Automotive Purchasers Continues —Prices Retain Firmness

NEW YORK, May 6—Activity and prices in the steel market continue to ease off in a perfectly orderly manner. The larger, self-contained units in the industry do not feel the slowing down as keenly as do some of the smaller finishing mills, but the trend is nevertheless the same. Some products fare slightly better than others. Demand for strip steel continues relatively good, thus emphasizing fair routine purchases by automotive consumers.

In the matter of prices, what were looked upon as concessions a week ago have become the regular quotations. Producers sense that price-cutting would not bring out any worth while business. They look upon the fresh orders now being placed as representing the irreducible minimum of the demand, and bend every effort to conserve prices as much as possible. There is no telling, however, what would happen if a buyer with a really representative tonnage to place were to enter the market, and play one seller against the other.

Some sales managers declare that the steel manufacturers did not take advantage of the situation when the demand was good a few months ago, and, because sellers then refrained from advancing prices, they expect buyers to be considerate now that the demand has tapered off. If there were any real bargain-hunters, this argument would not hold very long, but, from all appearances, consumers, especially automotive consumers, are satisfied to place orders for current requirements without bringing any undue pressure to bear on prices, and not to augment inventories of raw materials by stocking strip or sheets at this time.

The usual gestures on the part of union sheet mill operatives preceding the ending of the wage-scale pact for the year are again in evidence, and Youngstown advices say the operatives will ask a 10 per cent increase or more when their contract with the mills expires on June 30.

Pig Iron—Automotive foundries are buying sparingly. The market is irregular, the tone in the market for valley iron being flabby while at Buffalo and other furnace distributing points a somewhat firmer condition prevails.

Aluminum—Aluminum is moving in routine tonnages into automotive consumption, especially in the form of alloys used in the manufacture of certain radiator shells. The American as well as foreign markets remain stationary. Speculation was rife in the market early this week as to what the possible effect of a prolonged duration of the strike in the United Kingdom might be on the aluminum production and market there. After the first excitement had worn off, it was figured out diminished consumption would offset curtailed production, thus evening up matters. The domestic situation is entirely unchanged.

Tin—The market has been dislocated by the industrial crisis in the United Kingdom, but, as was to be expected, the large interests are protecting values against bear raids.

Copper—Some Middle-West buying is being caused by announcement of higher freight rates from Atlantic Seaboard refineries having been sanctioned by the I. C. C., effective June 15.

Lead—Early shipment lead is rather scarce, but the market continues rather quiet. Storage battery makers are buying in routine fashion.

Zinc—The market for this metal rules dull and continuingly feeble.

Weights Conference to Get Meter Report

WASHINGTON, May 5—The inaccuracy of taximeters and standardization of containers for the dispensing of lubricating oil at service stations, will be two of the main subjects of discussion at a conference to be held in Washington on May 25 to 28, on the occasion of the nineteenth National Conference on Weights and Measures, meeting under the auspices of the U. S. Bureau of Standards.

Because of the great diversity of taximeters in the various states, and their dissimilar computations for the same distance traversed, the move toward obtaining a uniformity in the functions of all automobile meters was initiated at the Eighteenth Conference of Weights and Measures. Ralph W. Smith, of the U. S. Bureau of Standards, was named chairman of a special committee to conduct the study and series of tests to this end. The findings of Mr. Smith's committee, together with independent studies of the mechanism, will be presented to the forthcoming conference for action.

The other phase of the conference, of interest to the automobile industry, is the question of bottles designed for the dispensing of lubricating oil, and of their use for this purpose.

U. S. in Road Congress

WASHINGTON, May 6—Apart from what it will accomplish to put road building throughout the world on a highly standardized plane, the action of the U. S. Senate in voting favorably on the resolution providing for American membership in the Permanent Association of International Road Congresses practically assures that the next meeting of the body will be held in the United States, the American Automobile Association says in a statement just issued here.

The celerity with which the Senate acted favorably when the measure was called up by Senator Phipps of Colorado, was taken as an indication that it would meet with speedy approval once it is called up in the House.

Industry Increases Hardwood Purchases

Buying for Current Deliveries Reported Exceptionally High —Prices Hold Firm

ATLANTA, May 4—April sales of hardwoods to the automobile, body and implement makers were larger than any single month in more than two years, and one of the largest months in the history of the business, according to lumber manufacturers in Atlanta.

The call from the automobile manufacturers during the latter part of the month was especially active, and while comparatively few orders for advance delivery are being reported the orders for current needs are exceptionally large, while the tone of the inquiries indicates they will continue so through the spring and early summer at least, as the industry is apparently contemplating a large production year.

The inquiry also would indicate that more advance buying is in early prospect, as the larger buyers are beginning to think there will be no reductions in prices. Woods in primary demand include the thicker dimensions of white ash, maple and elm. The prices are the same as those that have prevailed for several months past with the exception of maple, which is about $1 per thousand less, f. o. b. Atlanta, than five or six weeks ago.

Production, however, is comparatively low at southeastern lumber mills because of the wet weather recently, and stocks in the hands of the mills are therefore not exceptionally large.

White Roll Call Shows Increase of 4,662 in Year

CLEVELAND, May 4—This year's roll call of the White Motor Company, just announced, contains 124 more names that the roll call of 1925 and shows an increase in the number of trucks of 4662. Only the name of individuals and firms using ten or more trucks or buses are listed. Last year's roll call listed 961 persons and firms and 35,755 trucks and buses. The pioneer truck owner on the roll call is W. & J. Sloane, New York furniture and carpet merchants, who have used a fleet of White trucks for sixteen years. On the 1926 roll call, it was pointed out, are 123 owners who operate in excess of 100 White trucks or buses each.

Algerian Taxes Fixed

WASHINGTON, May 6—Internal taxes, 10 francs per hectoliter on gasoline and other mineral fuel oils, and 300 francs per 100 kilos on tires and tubes, have been established in Algeria by a decree of Feb. 19 effective from January 1, 1926, according to a report to the Foreign Tariffs Division of the Department of Commerce.

Service Show Plans Ready for Approval

M.A.M.A. Committee Completes Arrangements for Special Exhibits

NEW YORK, May 4—Special sections of the National Automobile Shows devoted to service equipment will visualize in striking fashion the progress and possibilities in automotive maintenance, according to plans worked out by the Service Equipment Committee of the Motor and Accessory Manufacturers Association. It is proposed to demonstrate modern automotive maintenance equipment and methods before separate audiences of the trade and the public. The exhibits will show how up-to-date service methods can be made to increase motoring efficiency and satisfaction and enlarge the profits of the trade.

The Service Equipment Committee of the M. & A. M. A. is composed of R. W. Procter, Black & Decker Mfg. Co., chairman; Fred G. Wacker, Automotive Maintenance Machinery Co.; H. M. Smith, Manley Mfg. Co.; Martin E. Goldman, Forest Electric Co.; and B. M. Asch, Asch & Co. The committee held an all-day session with M. L. Heminway, general manager, and Neal G. Adair, show and educational department manager, of the association, at headquarters in New York. The committee is working on the show plans on behalf of the M. & A. M. A. membership and at the request of S. A. Miles, show manager of the National Automobile Chamber of Commerce, which conducts the New York and Chicago shows with the M. & A. M. A. as a cooperating organization.

Will Have Separate Spacing

The committee worked out detailed plans later to be taken up with Mr. Miles for staging and promoting the service equipment exhibits. These exhibits will be grouped in both the New York and Chicago shows instead of being placed with the parts and accessory exhibits as formerly. The object of this arrangement is to permit operating of service equipment, which in some cases could not be conducted along with exhibits of other products because of noise and more than ordinarily large spaces which should be necessary.

It is also proposed to admit only the trade to the service equipment sections during the early hours of the day so that public crowding will not interfere with the demonstrations. In the evening the special sections will be thrown open to the public to impress upon motorists the importance of adequate equipment in the shops which they patronize. It is also proposed to work out a system under which New York and Chicago and vicinity wholesalers of service equipment will be able to cooperate with the exhibiting manufacturers. It is probable that service meetings of some kind will be arranged.

Along with the show management and the service equipment manufacturers arrangements are being made by the Service Managers' Division of the N.A.C.C. to cooperate with the exhibits. Supporting the campaign of this division to encourage modern equipment for car dealers' service stations, the division has already taken a hand in the exhibit through the activity of its chairman, W. M. Warner, service manager of Cadillac, and H. R. Cobleigh, service secretary of the N.A.C.C., who will further organize the cooperation of the division.

See Increased Trade Interest

The plan for separate service equipment sections in the national shows has been heartily approved by parts and accessory manufacturers, who anticipate increased trade interest in their exhibits as a result of the special promotion work which will be done to bring wholesalers, retailers and service men to the shows to see the service equipment demonstrations.

The M. & A. M. A. will assign space to its members in the service equipment sections as well as parts and accessory divisions of the shows, continuing its arrangement of many years standing with the N.A.C.C.

Guggenheim Directors to Seek Air Legislation

NEW YORK, May 3—Harry M. Guggenheim, president, and Admiral H. A. Cone, vice-president, have returned from a tour of Europe ready to inaugurate the work of the $2,500,000 Daniel Guggenheim Fund for the Promotion of Aeronautics. They studied the progress of civilian aviation in Europe and their report to the Fund trustees is expected to favor legislation to establish a bureau of commercial aviation which would first settle the problems of meteorological and communication services, with cooperation of states and municipalities to come later.

The report is also expeeted to emphasize the importance of experimental long-haul freight lines in advance of passenger service, and the necessity of educating the public to the importance of commercial aviation.

Reeves Gives Talk

NEW YORK, May 3—One of a series of district meetings in preparation for the second annual convention of the Radio Manufacturers' Association, to be held at Atlantic City, May 10-14, was held here Friday. The chief speaker was Alfred Reeves, general manager of the National Automobile Chamber of Commerce. He discussed the services which a trade association can perform for an industry.

Neal to Christensen

DETROIT, May 3—Fred Neale has resigned from General Motors Truck Co., where he was chief engineer of the engine division, and is now technical engineer of Christensen Air Brake Co. of Cleveland.

Highways to Bring 5,000,000 More Cars

Strong Points in Industry's Development and Future Described by Reeves

NEW YORK, May 3—Cooperation among car manufacturers as one of the chief reasons for the success of the automobile industry in the United States was described by Alfred Reeves, general manager of the National Automobile Chamber of Commerce, at a luncheon of the New York Electrical League, held at Hotel Astor yesterday.

Despite vigorous competition in selling and prices, the generous cooperation in engineering and manufacturing problems among members of the N.A.C.C. have made it possible to produce the best possible cars at the lowest possible prices, he said.

As an example of this cooperation, Mr. Reeves cited the pooling of developing patents ten years ago, and the renewal of this agreement January 1 for another five years.

He also stressed the importance of the monthly exchange of shipping reports among the members and the inspection of various plants by officials and engineers of other plants.

The whole country was now sold on the automobile Mr. Reeves said and he declared the sales saturation point was a myth so long as there was anyone left to buy a new car.

Law makers were uniformly fair towards the automobile industry when they understood the facts of the industry's problems, but the industry insisted that all money collected in taxes from motorists should be spent on the public highways. The increase of cars in use from the present 20,000,000 to at least 25,000,000 depended almost entirely upon highway extension and improvement, he asserted.

Accidents Important Problem

Describing motor vehicle accidents as a problem of tremendous import to the industry, Mr. Reeves urged that motorcycle police, instead of hiding behind trees to pursue offenders after accidents, should be stationed in the center of the road where they could be seen plainly by all riders.

The electric truck industry, he said, was developing fast. Trolley service would always be necessary for mass transportation. Too many trolley and railroad lines were adopting bus and truck service merely as a defensive measure, Mr. Reeves said. The bus and truck are auxiliaries necessary to trolleys and railroads in handling transportation under present conditions, he declared.

F. J. Scar, manager of the Motor Transportation Bureau of the Pennsylvania Railroad, discussed the use of electric and gas vehicles, with special relation to terminal transportation.

M.A.M.A. Undertakes New Sales Activity

Special Department Formed to Assist Members in Distribution Development

NEW YORK, May 6—The Motor & Accessory Manufacturers Association has established a new service for members. It is a Sales Development Department which has already begun work to assist manufacturers in the profitable distribution of their products.

Announcement of the new department was made today by M. L. Heminway, general manager of the association, together with appointment of a Sales Development Committee and sub-committees by H. L. Horning, president of the Waukesha Motor Co., and president of the M. & A. M. A. The new service will take over the work of the Show and Educational Departments and will be in charge of Neal G. Adair, who has headed these two departments for the last two years.

The Sales Development Committee, which will have general supervision over the work, is headed by L. A. Safford, vice-president of the McQuay-Norris Mfg. Co. His fellow members are M. A. Moynihan, Gemmer Mfg. Co.; W. S. Isherwood, AC Spark Plug Co.; A. H. Bartsch, American Bosch Magneto Corp. and R. W. Procter, Black & Decker Mfg. Co.

Distribution research work is a new service for the membership which the Sales Development Department has undertaken. Several weeks ago three groups of members were organized, one including service parts manufacturers, another made up of accessory manufacturers and the third of service equipment manufacturers. These groups, through their respective sub-committees and the department, will undertake studies of practices prevailing in the industry in the distribution of parts, accessories and service equipment. Since the groups were organized and the committees informally brought together in January, six surveys have been completed. Additional researches will be undertaken shortly and it is expected that the information developed will aid in bringing about wider adherence to constructive distribution policies.

G.M.A.C. Adds Capital

NEW YORK, May 3—General Motors Acceptance Corp. has sold an additional 55,000 shares of its capital stock to General Motors Corp. at $125 per share, thus acquiring $6,875,000 of additional capital funds.

Last year G. M. A. C. increased its capital and surplus to $16,875,000 in order to care for its increased business. G. M. A. C. now has capital and surplus and undivided profits totaling $28,750,000. All its capital stock is owned by General Motors Corp.

Columbia Issues Bonds

PORTLAND, ORE., May 3—The need of more than doubling the daily capacity of the Columbia Tire Co. to take care of the rapid expansion of the business resulted in the offering to investors of an issue of $250,000 7 per cent closed mortgage bonds.

The financing is made imperative if growth of this tire concern is to be maintained, according to Robert A. Wurzburg, president. The schedule contemplated for the coming season is based on a production of 750 tires a day.

Net earnings of the tire company, after depreciation and federal taxes for the year 1925 were $91,585.20.

Financial Notes

Spicer Mfg. Co. for the quarter ended March 31 reports net profit $520,579 after depreciation, interest and discounts but before Federal taxes, equivalent after preferred dividends to $1.46 a share on 313,750 shares of no par common and comparing with $316,984 or 81 cents a share in the first quarter of 1925.

American Bosch Magneto Corp. for the quarter ended March 31 reports net income $138,908 after depreciation and interest but before Federal taxes, equal to 67 cents a share on 138,266 no par shares of capital stock. This compares with $76,632 or 55 cents a share in the first quarter last year.

Packard Motor Car Co. reports $1,794,319 net profit for March after taxes and charges. Net profit for the first seven months of the fiscal year were $9,796,677 or $3.74 a share on 2,614,722 outstanding shares of $10 par common.

Moto Meter Co., Inc., and subsidiaries for the first quarter of 1926 reports net income $522,215 after depreciation, Federal taxes, etc., and equal to $1.38 a share on 200,000 shares of no par Class A and to $1.22 a share on 200,000 of no par Class B. This compares with $413,461 or $1.20 on Class A and 86 cents on Class B in the first quarter last year.

Paige-Detroit Motor Car Co. and subsidiaries for the quarter ended March 31 reports net income $505,369 after charges and Federal taxes equivalent, after allowing for seven per cent preferred dividends, to 70 cents a share on 676,474 shares of no par common outstanding. Sales for the quarter were $17,399,927.

Moon Motor Car Co. reports net profit for the first quarter, after all charges, equal to $1.03 a share on 180,000 shares against slightly over $1.00 for the same period last year. First quarter sales increased 8.42 per cent over the 1925 quarter.

Developments of the Week in Leading Motor Stocks

NEW YORK, May 6—Stock market quotations fluctuated in a narrow range during the past week. Motor shares acted in sympathy with the rest of the market without any definite indications of a trend in either direction, and closed the week at slightly lower levels in a majority of issues.

General Motors, however, continued to give an outstanding performance and rose to a new high price on the movement above 135. In addition to the expectation of a liberal extra dividend at the May 13 directors' meeting, there were reports that the corporation had made another offer for the minority interest in Fisher Body Corp., which was likely to be accepted. The proposal was said to be on a basis of exchanging one share of General Motors common stock for each 1½ shares of Fisher Body capital stock. At present General Motors holds 60 per cent of the outstanding 2,400,000 shares of Fisher Body capital stock, leaving less than 1,000,000 shares in the hands of the minority interests. After reaching its high level General Motors receded to around 130 at which level it held steadily for several days, but it was still slightly above its quotation of the preceding week.

Hudson also held firm and closed the week at slightly higher prices on reports that directors were considering a 50 per cent stock dividend and placing of the stock on a $4 annual dividend basis. Hudson has continued to pay $3 a share annually during all its recent capers on the Stock Exchange and this is not the first time that reports of an increase have been circulated. However, those responsible for the present report see something in the wind as accounting for the stock's relatively high price as a $3 dividend payer, especially in view of the fact that earnings have not reached the levels formerly anticipated. Well-informed circles on Hudson affairs, however, are skeptical and do not look for any change when directors meet toward the end of May.

Packard and Hupp Motor also held well around 36 for the former and 20 for the latter on reports that their business was holding up to former high levels. Practically all the other motor shares closed the week at lower prices although in no case did the change amount to more than one or two points.

The rubber shares were off about two points with Goodrich at 52½ and U. S Rubber at around 60. The motor stocks failed to take any notice of optimistic accounts of the truck business or the statement of Mack Trucks for the first quarter of the year, indicating that April business was of record proportions following a 28 per cent gain in sales during the first three months of the year. E. S.

New Car Sales Continue Strong With Probability of Further Gains for May

(Continued from page 760)

Used car market is reported as considerably improved.

General business conditions continue to be favorable.

PHILADELPHIA

RETAIL trade in new cars during the past month has been good beyond expectations, according to both distributors and dealers in this territory.

Dealers' stocks of new cars are unusually low for this time of year, much lower, in fact, than a year ago. It is safe to assert that there are no big stocks of new automobiles in city dealers' hands today.

The used car situation has become rather difficult again and stocks have begun to pile up aggravatingly, following a period of what had promised to be relief. Trade-in sales are increasing, except in the case of the cheapest cars, and these exchange cars have not been readily moved. The daily newspapers are filled with advertisements of used cars. In some instances the results have been satisfactory but in the greater number of cases, they have not.

Truck sales have been fair to good, light delivery cars and dump-body trucks leading in sales, with general hauling purpose models in next position. Inquiries on bus prices have greatly increased and sales of coach models and city pay-enter types have been fair.

BUFFALO

APRIL in the sale of new cars proved to be slightly better than the same month last year and relatively better than March this year despite the fact that there was much inclement and cold weather during the month. Used car sales in many instances are reported no worse than those of one year ago and in some cases used car conditions are better. Dealers who have been careful in making allowances and have managed to gain the confidence of the public by guarantees of used cars are in fairly good shape, particularly when they have supplemented these factors with aggressive merchandising and advertising methods. Car sales for April are slightly higher than April last year and conditions are considered favorable for business in May. Manufacturers of motor vehicles here and also of automotive equipment report conditions satisfactory and production and demand somewhat in excess of this period. 1925 wholesalers of automotive accessories report that business in April was much better than that of March and better than April one year ago.

SEATTLE

AUTO dealers in the Seattle district report sales in April continued to increase in practically all lines.

Down-payments are up to standard requirements and the credit situation is good with a smaller percentage of repossessions than a year ago. If present crop conditions continue favorable the fall sales will be very active, for the farmers in this section are in better shape to buy cars than they have been at any time since 1921.

The used car market is good. Stocks are moving freely and few lines are burdened with too many used cars. The accessories market is keeping pace with new car sales. The Pacific Northwest should be a good market for the balance of the year.

CLEVELAND

THE month of April has made a strange record in the automotive field here. For car and parts manufacturers, the month was an unusually lucrative one, all makers reporting banner business. For car retailers, the month's story is somewhat different. Nearly all the dealers found the early weeks of the month slow, with a marked brightening during the last ten days, due primarily to settled spring weather.

Sales records have been satisfactory, all things considered, but from all reports available at the moment, the number of new cars sold during the past month was not in excess of the number sold during April, 1925. It cannot be said that the stock of new cars is unusually large, and neither can it be said that it is unusually light. The used car market still is slow and the supply is heavy.

With settled weather apparently arrived and with settlement of the union workers' wage controversy in immediate prospect, everyone is looking for much better business during May.

CHARLOTTE

THE automotive trade in the Carolinas territory is definitely affected by the general resistance, which is greater in all lines of trade than in any corresponding season in recent years, though the automotive trade is maintaining a fair to good business, according to reports from the leading establishments in the several lines.

Vigorous efforts on the part of salesmen for all concerns are required to make sales of new cars.

The very important cotton manufacturing industry in this territory is admittedly facing what is described as "a most trying summer." Programs of curtailment already are in effect and the prospect is that this condition may become more influential, for the executives of many cotton mills are discussing the advisability of more general curtailment of operations. This curtailment is disturbing general business conditions. Building is in a definite slump in this territory. The financial position of the farmers is somewhat unsatisfactory this spring, because of losses caused by the unprecedented drought of last summer.

In addition to handicapping the passenger car industry, these conditions are presenting a serious problem for distributors and dealers in motor trucks, the volume of sales of which appears to be slowly decreasing.

SAN FRANCISCO

PASSENGER car sales in northern central California and Oregon showed improvement for April of about 20 per cent over same month last year and approximately 30 per cent over March this year, according to a summary of conditions by the Motor Car Dealers Association of San Francisco. Sales generally were better in the country, particularly the fruit growing sections, than in cities. Used cars moved about 15 per cent better than in March, due largely to general use of classified advertising in newspapers and to general rebuilding of cars by virtually all new car dealers. Auctions of used cars of lower priced makes have been successful throughout this territory and are being held regularly once a month in many towns. Trucks are moving slowly and probably will not show much life until the ripening of the fruit crops in July and August. Used trucks are in demand with very few offered. General sales conditions are much better in this territory than a month ago with prospects that May will give better results.

DENVER

APRIL showed a heavy increase in all car and accessory lines over March and a good margin over last April, 1925. All sections of state are on about the same level now. Crop prospects never were better. Farmers are optimistic and collections are much improved.

Some Tire Companies Gain by Low Stocks

Inventory Situation Acute as Result of Crude Drops and Poor Sales

AKRON, OHIO, May 5—Indications are that current earnings of many of the smaller automobile tire manufacturers are proportionately better than those of some of their larger competitors, as a result of the present irregular situation with regard to crude rubber inventories.

Not having much of a surplus on hand when the market collapsed early this year, the small companies have had practically no inventory losses. They are now using rubber in the manufacture of tires which costs less than 50 cents a pound, whereas the big concerns are still using rubber purchased at considerably higher prices. Authorities point out that if rubber continues at a level of about 45 cents, manufacturers in a favorable inventory position could easily shade prices and still show a satisfactory profit.

To prevent the small companies from making inroads into their sales, it is believed that one of the major manufacturers will take the initiative in the near future toward a general tire-price cut. Some action along this line appears almost inevitable. Retail business is badly in need of such a stimulating influence, as sales are 30 or 40 per cent below those of last year.

Inventories of tires in the hands of manufacturers are at least 25 per cent higher than they were at this time last year. There are stored in factory and branch warehouses an estimated total of more than 12,000,000 automobile casings, compared with 11,000,000 March 1, and less than 9,000,000 a year ago.

Crude Rubber Stocks Maintain Tire Prices

PHILADELPHIA, May 3—The fact that rubber manufacturers must purchase crude rubber several months in advance of their actual requirements coupled with the amount of stock in process makes it impossible for prices of finished goods immediately to reflect changes in crude prices. This was the opinion of A. L. Viles, general manager, The Rubber Association of America, expressed in a talk before the Motor Truck Association of Philadelphia last week.

The reference to finished goods prices by Mr. Viles was merely an incidental deduction from a review of economic conditions in the rubber manufacturing industry resulting from the crude rubber situation which included consideration of the present crude rubber market and comparison with crude rubber import values by the Department of Commerce for February and March 1926, this comparison indicating a wide spread between the present spot market and crude rubber now in process due to a normal cycle of nearly eight months between crude rubber purchases and the sale of finished goods.

As reported in last week's issue of *Automotive Industries*, Mr. Viles was quoted as saying that tire prices would drop in the near future. This was an erroneous interpretation of his remarks as evidenced in the foregoing paragraphs.

NEW DRIVING TESTS RESTRICTING SALES

CORNING, N. Y., May 4—As a result of the tightening up in the tests given by State inspectors to those wishing operators' licenses, dealers throughout this section of New York are encountering difficulty in selling cars to prospects who have had little or no previous experience in handling motor vehicles.

For some time a law has been in effect requiring new drivers to undergo an examination before obtaining permanent permission to operate their cars. Until recently these drivers have, with but few exceptions, encountered no difficulty in passing the examination. Now, however, conditions are just about the opposite.

When the last tests were conducted here, 18 were given examinations. Out of this number, 16 applicants were refused permits and only 2 were granted operator's licenses. At the weekly session in Olean, N. Y., 19 were refused licenses.

A storm of indignation has been set up by automobile dealers who look upon the present rigid restrictions as a serious menace to the automobile business in New York state.

White Company Continues Officers and Directors

CLEVELAND, May 4—Directors of the White Motor Co. were all re-elected at the annual meeting of shareholders held here this week. Directors afterwards convened and re-elected officers without change in personnel.

The directors declared the regular quarterly dividend of $1 a share, payable June 30 to stock of record June 15.

The dividend applies on the enlarged capital of $40,000,000 consisting of 800,000 shares of $50 par value, compared with 500,000 shares previously outstanding.

Gardner Has Larger Engine

ST. LOUIS, May 5—The Gardner Motor Co. Inc., has announced that all models on the 8-cylinder chassis are now being equipped with Lycoming 4HM engines. This engine is similar to the Lycoming 2H formerly used except that the bore is ⅛ in. larger, now being 3¼ in. The new engine was first used on the 7-passenger, 135-in. wheelbase sedan which was announced early in March.

Leading Racers File Indianapolis Entry

Thirty-seven Cars Listed to Face Elimination Tests—33 to Qualify

INDIANAPOLIS, May 6—Thirty-seven cars are entered for the 500 mile race with possible addition from France of one car, entry of which will be accepted if mailed before May 1. Pete De Paolo is down to drive his Miller special while his Duesenberg special driver is not named. Ralph Mulford and Bob McDonogh are down to drive two other Duesenbergs entered by Mulford and Tommy Milton, respectively. Jack Foley is to drive a Duesenberg entered by Jack Leacain while Ben Jones drives one entered by himself.

Thirteen Miller specials are entered. The front-drive Miller entered by Harry Miller himself is to be driven by Dave Lewis. Bennett, Hill and Jules Ellingboe will drive the other Millers entered by Harry Miller. Three Miller specials entered by Harry Hartz will be driven by Hartz, Fred Comer and an unnamed driver. Peter Kries and Frank Elliot will drive two Millers entered by themselves.

Ralph De Palma will drive one of the two unnamed cars entered by himself, other driver unnamed. Cliff Durant and Harlan Fengler will drive the two unnamed cars entered by Cliff Durant. Earl Cooper will drive a front-drive Miller special entered by himself. Herbert Jones will drive an unnamed car entered by himself. The three French Schmidt specials have no drivers yet officially nominated. The two Eldridge specials from England will be driven by W. Douglas Hawkes and E. A. D. Eldridge who entered the cars.

The Hamlin front-drive fronty Ford type entered by the Hamlin Motor Car Co. has no driver nominated. T. W. Pickard will drive the Siever, Jr., special he entered. Norman Batten, R. G. McDougall, Dr. E. W. Shattuck and Daniel J. Obrine will drive Miller specials entered by themselves. Thane Houser will drive the Abell special entered by George Abell. Earl Devore drives an unnamed car entered by F. P. Cramer.

Cliff Woodbury drives a Boyle valve special he entered. The Green super-Ford special entered by the Green Engineering Co. has no driver nominated. A. D. Cain is down to drive the K & M special entered by the K & M Machine Co. and Charles Shambaugh enters and drives the Shambaugh special. Only 33 are permitted to start.

Rubber Imports Reduced

WASHINGTON, May 6—Supplementary figures made public by the Department of Commerce this week show that re-exports of crude rubber from the United States during March totaled 4,112,424 pounds, or 1836 long tons. This was valued at $2,735,234.

"Call of the Road" Featured on Coast

San Francisco Dealers and Sporting Goods Stores Co-operate on Displays

SAN FRANCISCO, May 3—"Call of the Open Road Week" is to be celebrated in every automotive merchandising establishment in San Francisco from May 10 to 16, inclusive, according to announcement by George A. Wahlgreen, veteran show manager for the Motor Car Dealers Association of San Francisco. This year all the dealers in sporting goods, hunting and fishing arms and tackle and camping equipment have joined hands with the automobile dealers, and in each such store a car will be displayed in connection with the general open-road window dressing. This gives the dealers a double amount of display for their cars. Down-town department stores also have realized the value of the week's display, and will have automobiles, fully equipped for hunting, fishing and camping tours, in their windows.

Under Wahlgreen's direction, the automobile dealers, the sporting goods houses, and the department stores have got together on their plans of window dressing and display, so that no two will be exactly alike. Beginning with May 10, all the automobile dealers and many of the equipment stores will keep open evenings until midnight. Cash prizes, three in number, are to be awarded for the car best equipped for hunting, fishing and camping out. Complete and practicable equipment will be the deciding factor. Van Ness Avenue—"Automobile Row"—will be illuminated every night, and there will be a parade of automobiles fully equipped for touring and camping, each evening. Society girls and models from the various art schools will man these cars, and prizes have been offered for privately-owned cars entered in the pageants. "Call of the Open Road Week" has become a regularly-established institution in San Francisco, due largely to the fact that there is not now a hunting or fishing section in the state which cannot be reached over a paved or well-maintained graveled road.

Connecticut Licenses Show 11 Per Cent Gain

HARTFORD, CONN., May 3—Receipts of the motor vehicle department for the first quarter of 1926 total $4,127,579 and show an increase of 11 per cent over the corresponding period a year ago. The gasoline tax is not included in these figures.

Registration fees on 167,631 cars made up $3,405,500.97 and $611,410 came from operators' license fees. Two hundred and two thousand and ninety-three drivers had been licensed up to the first of April this year. The next largest item was $48,000 for dealers registrations while fines imposed for infractions of the automobile law amounted to $34,170.32. Examinations given 4442 applicants for operators' licenses amounted to $8884 in fees.

In five years the business of the Bridgeport branch has increased 100 per cent while the Waterbury branch in two years has shown an increase of 37 per cent.

Central Lane Speeds Cars Through Town

SAN FRANCISCO, May 3—One California town is inviting fast driving through its midst, in order to get through traffic out of the way, and give time and space for local traffic and parking. This is Southgate, on Long Beach Boulevard, between Los Angeles and the ocean. Beginning at the town limits, heavy white lines are painted 20 feet from each curb, setting off a 40-foot strip in the middle of the boulevard. Across this central strip, at the boundaries of the city and at frequent intervals are painted large signs, saying "35-mile Limit. Step on It." Signs at the sides of the boulevard read, "Slow-Pokes to the Right." The two sides strips are for the slow drivers and for local traffic; the central, 40-foot strip, is for through traffic and fast drivers, the speed limit being the same as on the open highway, outside the cities.

The city council of Southgate put through this system about the middle of March, and it has materially aided in removing congestion on the main street, which is the through boulevard. During that period, according to Frank S. Swalm, head of the Southgate police department, there has not been a single accident on the 40-foot strip of high-speed motorway through the heart of the town.

New York-Boston Planes to Start Service July 1

BOSTON, May 3—Colonial Airways will start operating its air mail route between Boston and New York, officials state, about July 1. The company has had to meet several obstacles. One was the difficulty in completing arrangements for handling express matter and the other was lack of a satisfactory landing field at New York. They did not want to use the New Jersey terminus because it meant flying over Manhattan. So it expects to secure a suitable place north or east of the city. Postmaster General New states that this line will be one of the most important in the country and he wishes to see it operating safely.

Oregon Licenses Increase

SALEM, ORE., May 3—Motor vehicle operators in Oregon this year will pay in license fees and gasoline taxes approximately $9,500,000, or nearly twice as much as the total direct property tax.

If the same percentage of increase in motor fees is maintained during the remainder of the year as up to this time, there will be 240,000 motor vehicles registered.

Electric Truck Men Push Sales Program

Will Organize Stations in Leading Cities to Promote Market Development

NEW YORK, May 3—To develop the electric truck market the Society for Electrical Development, 522 Fifth Avenue, composed of 13 manufacturers of electric street trucks, storage batteries and accessories, is this year conducting a follow-through campaign to extend sales and improve service.

From the 26 cities listed as offering the best markets the Society is compiling a report on sales representation, service facilities and other details of manufacturers' efforts to develop the market. Efforts are being made to organize an electric truck club in each city having sales representation, and organizations of all department heads using or supervising electric trucks are also being formed.

The central station in each city is asked to do specific things in market development and in turn the manufacturers promise definite services to the stations and the Society conducts the national promotion. This program is in charge of a committee consisting of: C. A. Ward, Ward Motor Vehicle Co., chairman; G. A. Freeman, Walker Vehicle Co; E. R. Whitney, Commercial Truck Co.; W. Van C. Brandt, Electric Storage Battery Co.; K. B. Jones, General Electric Co.; and Raymong Zindle, S. E. D., secretary.

The other companies taking part are: The Autocar Co., Steinmetz Electric Motor Car Corp., Edison Storage Battery Co., Philadelphia Storage Battery Co., Albert & J. M. Anderson Mfg. Co., Electric Products Co., Sangamo Electric Co. and Westinghouse Electric & Manufacturing Co.

In cooperation with manufacturers the Society is also conducting a business building campaign in the interests of electric industrial trucks and tractors. During the past three years $1,092,639 has been expended in these promotion campaigns.

Industry Sets Marks in Shipments by Rail

NEW YORK, May 3—Carload automobile shipments from the main plants have greatly exceeded previous records during the last two months, according to the National Automobile Chamber of Commerce. In February a new figure was established, with 60,604 carloads, and this was outstripped in March, when 74,265 carloads were shipped on the rails. Driveaways have not kept pace with the rail shipping, the February figure being 43,899 machines, while March was 58,295. The record driveaway month was during the car shortage period of May, 1920, when 74,286 machines were driven over the roads through lack of railroad facilities.

New G.E. Headlight Has Wide Side Beam

SCHENECTADY, May 6—Designed to give long range without glare and to illuminate ditches by a wide side beam, a new type of automobile headlight was announced this week by W. D'Arcy Ryan, director of the General Electric Illuminating Engineering Laboratory.

The light is designed to illuminate the road for more than 200 feet ahead, and also the ditches on either side, so that persons in the automobile may easily read road signs even when the front of the car is several feet past such signs.

The lights are scarcely more than three inches in thickness, including the projecting lens. The reflector and the lenses are such that the light from one lamp—a standard 21 candlepower mazda—casts a double crescent of light. The upper crescent is the long range beam and the lower, inverted by the reflector, is superimposed on the other in such a way as to spread the illumination evenly over the entire road and light the ditches, telegraph poles and foliage overhead.

Waukesha Adds to Plant

WAUKESHA, WIS., May 1—Waukesha Motor Co., Waukesha, Wis., manufacturer of heavy duty gasoline engines, is pushing work on the construction of a manufacturing addition, 66 x 154 ft. The space is needed to effect a substantial increase in production required by growing orders, and efforts are being made to have it available by the latter part of May.

Coming Feature Issues of Chilton Class Journal Publications

June 10—Automotive Industries Annual Engineering Issue.

Graham Division Buys Additional Plant Space

EVANSVILLE, IND., May 3—Graham Brothers division of Dodge Brothers has purchased the property and buildings of the Evansville Band Mill Co., covering 4.6 acres adjoining the present plant property. The property will be used for contemplated building expansion. The Graham Brothers plant was closed for a week or ten days period to take inventory, following the recent sale of the Graham Brothers interests to Dodge Brothers, Inc. The local plant for the past two weeks has been operating on a daily schedule of 85 trucks a day.

Another Seaman Addition

MILWAUKEE, May 1—Contracts are now being awarded for another large addition to the plant of the Seaman Body Corp., and it is expected the building will be completed before the end of summer. The structure will be reinforced steel and concrete, five stories high and 100 x 172 ft.

Expansion is made necessary, said Harold Seaman, president, because of the heavy demand for Nash and Ajax cars. Last fall a large addition to the plant doubled its size.

Rubber Conservation Not Affecting Sales

NEW YORK, May 3—George J. Burger, secretary-treasurer of the National Tire Dealers Association, basing his opinion on reports from members, does not believe that the rubber conservation campaign has had any appreciable effect on tire sales in general.

The appeal to tire users to obtain more mileage out of their tires through repairs, he thinks, may be carrying weight in rural districts but not in the large cities. Mr. Burger notes from reports by dealers in 23 states a large increase in second line tire sales, but does not know whether this is increasing manufacturers' inventories of first line tires.

Although he describes many dealers as having large inventories on hand, and as doubtful as to the trend of prices after July first, he does not see any reason why dealers should become panicky over the situation but believes that the proper dealer policy at present is one of watchful waiting for developments.

A questionnaire among association members as to spring dating showed them about evenly divided for and against this policy.

Lenz in Larger Quarters

NEW YORK, May 1—Ernest W. Lenz, foreign representative for a number of manufacturers, has moved into larger quarters at its old address, 280 Broadway. The concern now occupies two offices and a separate showroom in which are displayed the lines it represents.

Calendar of Coming Events

SHOWS

May 25 — International Exhibition of Roads, Transport and Touring, Show Grounds, Argentine Rural Society, Palermo, Buenos Aires.

June 10-20—Third Annual Automobile, Motor Cycle and Cycle Exposition, Geneva.

July 28—First Peruvian Automobile Show, under auspices Peruvian Touring Club, Lima.

Sept. 7-10—6th Annual New Haven Machine Tool Exhibition.

Sept.—Fifth International Road Congress and Exposition, Milan.

Sept.—Automobile Show, Prague.

Oct. 7-17—Auto Salon, Grand Palais, Paris.

Oct. 21-30—Olympia Show, London.

Nov. 8-13 — Convention and Show, Automotive Equipment Association, Coliseum, Chicago.

Dec.—Show at Brussels.

End of 1926—Show at Berlin.

CONVENTIONS

May 10-13 — 14th annual meeting Chamber of Commerce of the United States, Washington.

May 13-15—American Gear Manufacturers Association, Tenth Annual Convention, Book-Cadillac Hotel, Detroit.

May 17-21—National Electric Light Association and Electric Truck Manufacturers Association, Atlantic City, N. J.

May 28-29—National Motor Regrinders and Rebuilders Association, Indianapolis.

June 7-12—Annual United States good roads show and convention, direction United States Good Roads Association, Inc., and Bankhead National Highway Association, Santa Monica.

June 8-10—Automobile Body Builders Association with manufacturers' exhibit, Detroit, Hotel Statler.

June 14-19 — Automotive Equipment Association, Mount Royal Hotel, Montreal, Canada.

June 16-18—Thirteenth National Convention, Society of Industrial Engineers, Philadelphia, Bellevue-Stratford Hotel.

Oct. 4-8 — 45th Annual Convention, American Electric Railway Association and manufacturers' exhibit, Cleveland Public Auditorium and Annex.

Nov. 13—Annual Meeting Associated Manufacturers of Fabric Auto Equipment, Inc., La Salle Hotel, Chicago.

Nov. 15-19—National Standard Parts Association convention and exhibit, Hotel Sherman, Chicago.

Nov. 16-18—National Tire Dealers Association, Inc., Memphis, Tenn.

RACES

May 10—Charlotte, N. C.

May 21-22—Tenth Annual Economy Run, Los Angeles to Camp Curry.

May 30-31 — 500-mile race, Indianapolis.

June 12 — Flag Day races, Altoona. Speedway.

June 12-13—Rudge-Whitworth 24-hour stock car race, Le Mans, France.

June 27—French Grand Prix, Miramas Track, Marseilles.

Sept. 6 — Labor Day races, Altoona Speedway.

S. A. E. MEETINGS

National

June 1-4 — Semi-annual meeting, French Lick Springs, Ind.

Sept. 21-23 — Production Engineering meeting, Hotel Sherman, Chicago.

Nov. 16-18—National Transportation and Service meeting, Boston.

Sectional

May 11 — Philadelphia. Problems in Design and Construction of Universal Joints.

May 12—San Francisco. Aircraft Development on the Pacific Coast.

May 14—Los Angeles. Improvements Needed in Motor Vehicles.

May 17—Chicago. Gasoline Substitutes from Coal.

May 18—Buffalo. Coincidental Locks.

May 20—Detroit. Coincidental Locks.